California Environmental Protection Agency

Air Resources Board

Final Statement of Reasons for Rulemaking

Including Summary of Comments and Agency Responses

PUBLIC HEARING TO CONSIDER ADOPTING THE AIRBORNE TOXIC CONTROL MEASURE FOR STATIONARY COMPRESSION IGNITION ENGINES

Public Hearing Dates: November 20, 2003
December 11, 2003
February 26, 2004
Agenda Item No.: 03-9-2

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I. GENERAL

In this rulemaking, the Air Resources Board (ARB or Board) is adopting a new regulation to control emissions of diesel particulate matter (PM) and other air pollutants from stationary compression-ignition engines, particularly diesel-fueled engines. The regulation will be contained in new section 93115, title 17, California Code of Regulations (CCR). This regulation will reduce the public's exposure to diesel PM and other air pollutants by establishing best available control technology (BACT), which includes emission standards and operational requirements, for stationary compression ignition engines that operate or are sold for use in California. The regulation supports the "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles," which was adopted by the Board on September 30, 2000.

This rulemaking was initiated by the September 26, 2003, publication of a notice for a public hearing initially scheduled for November 13, 2003. A "Staff Report: Initial Statement of Reasons" (Staff Report or ISOR) was also made available for public review and comment starting September 26, 2003. The Staff Report, which is incorporated by reference herein, described the rationale for the proposal. The text of the proposed regulation, which would add a new section 93115 to title 17, California Code of Regulations (CCR), was included as Appendix A to the Staff Report. These documents were also posted on the ARB's internet site for the rulemaking at: http://www.arb.ca.gov/regact/statde/statde.htm ("ARB's internet site").

On September 30, 2003, a notice of postponement was published, which rescheduled the hearing to November 20, 2003. The rulemaking was originally heard on November 20, 2003, continued to December 11, 2003, and continued again to February 26, 2004, to provide for the required review directed by Executive Order S-2-03.

On November 20, 2003, the Board conducted the public hearing to consider the staff's proposal as described in the Staff Report. At the hearing, staff proposed various editorial corrections and several modifications to the proposed regulation, which

specified new or additional requirements unique to Demand Response Program (DRP) engines operating under an Interruptible Service Contract (ISC) or the Rolling Blackout Reduction Program (RBRP). These modifications had been suggested by staff in a 10-page document entitled "Proposed ATCM Language Addressing Stationary Engines Used In Demand Response Programs (11/13/03)" that was distributed at the hearing and published on November 19, 2003, on ARB's internet site. Written and oral comments were received at the hearing. At the conclusion of the hearing, the Board delayed final action on the proposal in consideration of Executive Order S-2-03.

The proposal was continued to the hearing on December 11, 2003, at which the Board received additional written and oral comments. By notice of recalendaring of rulemaking actions, published January 28, 2004, the proposal was continued for consideration by the Board on February 26, 2004.

On February 26, 2004, the Board conducted a public hearing to consider the proposal for adoption. At the hearing, staff proposed various editorial corrections and several modifications to the regulation, most notably of which were revised language addressing DRP, ISC and RBRP engines and new or modified requirements for remote location engines, nuclear facility engines, and engines located near schools. These modifications had been suggested by staff in a 48-page document entitled "Suggested Modifications to the Proposed Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (February 23, 2004)." This document was distributed at the hearing and published on February 24, 2004, on ARB's internet site.

At the conclusion of the hearing on February 26, 2004, the Board adopted Resolution 03-30, in which it approved the adoption of the originally proposed regulation with the modifications presented by staff at the hearing. The staff's proposed modifications were identified in the 48-page document noted above, which was appended to the Resolution as Attachment B. Attachment B showed the originally proposed regulation and incorporated documents, with the text of all suggested modifications clearly identified. In accordance with section 11346.8 of the Government Code, the Board directed the Executive Officer to incorporate the modifications into the proposed regulatory text and to make such modifications available for a supplemental comment period of at least 15 days. The Executive Officer was then directed either to adopt the regulation with such additional modifications as may be appropriate in light of the comments received, or to present the regulation to the Board for further consideration if warranted in light of the comments.

The text of the modifications to the originally proposed regulation and the incorporated documents were made available for a supplemental 15-day comment period by issuance of a "Notice of Public Availability of Modified Text and Availability of Additional Documents" ("1st 15-day Notice"). The 1st 15-day Notice, a copy of Resolution 3-30, and the Attachment B document entitled "Staff's Suggested Modifications to the Original Proposal" were mailed on May 14, 2004, to all parties identified in section 44(a), title 1, CCR, and to other persons generally interested in the ARB's rulemaking concerning stationary compression-ignition engines. These documents were also published on

May 12, 2004, on ARB's internet site. The 1st 15-day Notice gave the name, telephone, and fax number of the ARB contact person from whom interested parties could obtain the complete texts of the four additional incorporated documents, the additional supporting document, and the modifications to the original proposal, with all of the modifications clearly indicated.

Several written comments were received during the initial 15-day comment period specifically addressing the proposed modifications. In response to these comments, staff made additional substantive modifications to the regulatory text. These modifications were made available for another supplemental 15-day comment period by issuance of a "Second Notice of Public Availability of Modified Text and Additional Documents" ("2nd 15-day Notice"). The originally proposed regulation, the text of the modifications published with the 1st 15-day Notice, and the text of the modifications published with the 2nd 15-day Notice were mailed on July 1, 2004, to all parties identified in section 44(a), title 1, CCR, and to other persons generally interested in the ARB's rulemaking concerning stationary compression-ignition engines. These documents were also published on July 1, 2004, on ARB's internet site. The 2nd 15-day Notice gave the name, telephone, and fax number of the ARB contact person from whom interested parties could obtain the complete texts of the additional supporting documents and the modifications to the original proposal, with all of the modifications clearly indicated. Several written comments were received during the second 15-day comment period specifically addressing the proposed modifications, but staff determined additional modifications in response to those comments would be unnecessary.

A third 15-day comment period, from July 21, 2004 to August 6, 2004, was provided to allow public consideration of and comment on the references for Chapter IX and the related Appendix I in the Staff Report. These references were inadvertently omitted from the Staff Report that was released on September 26, 2003. These references were made available by issuance of a "Third Notice of Public Availability of Additional Documents" ("3rd 15-notice Notice"). The 3rd 15-day Notice was mailed on July 21, 2004, to all parties identified in section 44(a), title 1, CCR, and to other persons generally interested in the ARB's rulemaking concerning stationary compression-ignition engines. These documents were also published on July 21, 2004, on ARB's internet site. The 3rd 15-day Notice gave the name, telephone, and fax number of the ARB contact person from whom interested parties could obtain the complete texts of the additional supporting documents.

Two written comments were received during the third 15-day comment period, but those comments did not specifically address the additional supporting documents in the 3rd 15-day notice. One comment identified an inadvertent word-processing omission in subsection 93115(e)(4)(G)2. of the draft regulation, which will be corrected when the final regulation order is forwarded to the Office of Administrative Law. The other comment addressed the number of hours for maintenance and testing, which was outside the scope of the notice. Therefore, staff made no additional modifications in response to those comments other than the correction as noted above.

The error cited above in subsection 93115(e)(4)(G)2. ("Monitoring Equipment") resulted from a word-processing error that occurred between the first 15-day and second 15-day proposed versions of the regulation. The original proposal, in relevant part, stated "All DPFs…must be installed with a backpressure monitor to notify the owner…when the high backpressure limit of the engine is approached." [emphasis added] In response to comments received, we modified the language and published it (in strikeout/underline format to denote deletions and additions) for comments in the first 15-day notice as follows: "All DPFs…must, upon engine installation or by no later than January 1, 2005, be installed with a backpressure monitor ~~to notify~~ that notifies the owner…when the high backpressure limit of the engine is approached." [emphasis in the original] Due to a word-processing error, much of this language was inadvertently excised in the second 15-day notice, resulting in: "All DPFs…must, upon engine installation or by no later than January 1, 2005, be installed with a backpressure approached." Note that the excised language was not announced as a proposed deletion in the second 15-day notice.

Clearly, as the commenter notes, the version in the second 15-day notice is nonsensical, as it says nothing about what is to be installed by the specified date and what that equipment is supposed to do. Moreover, the omitted language was already published for public comment in both the original proposal and the first 15-day notice, and we received no adverse comments on the complete language as described above before the inadvertent omission. Based on these reasons, and because it was an unintended, word-processing error, we agree with the commenter and believe it would be appropriate to use the omitted language in the ATCM (i.e., the version that appeared in the first 15-day notice).

After considering the comments received during the three 15-day comment periods, the Executive Officer issued Executive Order G-04-063, adopting the new section 93115 in title 17, CCR, and adopting the incorporated documents.

This Final Statement of Reasons (FSOR) updates the ISOR by identifying and explaining the modifications that were made to the original proposal as a result of public comment and staff analysis after the ISOR was issued. The FSOR also summarizes written and oral comments the Board received on the proposed regulatory text during the formal rulemaking process and the ARB's responses to those comments.

Documents Incorporated by Reference. Fourteen (14) test procedures, guidance documents, and military specifications are incorporated by reference in title 17, CCR, section 93115. Each instance of incorporation identifies the incorporated document by title and date. The incorporated ARB test procedures and documents; the California Air Pollution Control Officers Association (CAPCOA) and the Office of Environmental Health Hazard Assessment (OEHHA) guidance documents; the American Society for Testing and Materials (ASTM) standards and procedures; the military specifications; the National Fire Protection Association (NFPA) and Uniform Building Code (UBC) standards; and the International Organization for Standardization (ISO) test methods are readily available from the ARB upon request and were made available in the context of this rulemaking in the manner specified in Government Code section 11346.5(b).

Also, the incorporated military specifications can be obtained from the appropriate branch of the U.S. military. In addition, the referenced ASTM test methods are published by ASTM, a well-established and prominent organization in the sampling and analysis field. Similarly, the NFPA and ISO documents are published by well-established and prominent organizations. Like the ARB, OEHHA is a State agency, from which its guidelines can be readily obtained. Finally, CAPCOA is a well-established and prominent association of air pollution control officers from the local air districts, and their documents are readily available to the public. Therefore, all of the incorporated documents are reasonably available to the affected public from commonly known sources.

The test procedures, guidance documents, and military specifications are incorporated by reference because it would be cumbersome, unduly expensive, and otherwise impractical to print them in the CCR. Existing ARB administrative practice has been to have the test procedures, guidelines, specifications, and similar documents incorporated by reference rather than printed in the CCR because these procedures, specifications, and guidelines are highly technical and complex. They include the "nuts and bolts" engineering protocols, computer modeling, and laboratory practices required for certification of diesel engines and for performing computerized risk assessments and have a very limited audience. Because the ARB has never printed complete test procedures and guidance documents in the CCR, the directly affected public is accustomed to the incorporation format utilized therein. The ARB's test procedures and guidance documents as a whole are extensive, and it would be both cumbersome and expensive to print these lengthy, technically complex procedures for a limited audience in the CCR. Printing portions of the ARB's test procedures that are incorporated by reference would be unnecessarily confusing to the affected public.

Fiscal Impacts. As discussed below, the Board has determined that this regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(5) and 11346.5(a)(6), to any state agency or in federal funding to the state, costs or mandate to any local agency or school district, whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other non-discretionary costs or savings to local agencies.

The Board has determined that the adopted regulatory action will impose a mandate upon, and create costs to, local school districts ("schools") and local agencies such as municipal water treatment agencies ("local government agencies") that operate their own stationary diesel engines. Because the regulatory action applies to all entities that own or operate stationary diesel engines in California, the regulation does not impose unique requirements on schools and local government agencies. The Board has also determined that the adopted regulatory action will impose a mandate upon, and create costs to, local air pollution control districts and air quality management districts ("districts"), primarily for permitting and enforcement activities.

The cost to most of the affected local government agencies can be fully recovered by fees that are within the agencies' authority to assess under section 17500, et seq., of

the Government Code. Moreover, for schools and those local government agencies that are not authorized to assess fees to recover their costs, the costs from this regulation are not reimbursable because the regulation does not impose unique requirements on the schools and local government agencies. Similarly, the cost to the districts can be fully recovered by fees that are within the districts' authority to assess under Health and Safety Code (H&SC) sections 41510, et seq., and 42311. Thus, the local government agencies and districts have the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service within the meaning of section 17556 of the Government Code.

Therefore, the Executive Officer has determined that the adoption of this regulatory action imposes no costs on schools, local government agencies or districts that are required to be reimbursed by the State pursuant to part 7 (commencing with section 17500), division 4, title 2, of the Government Code, and does not impose a mandate on schools, local government agencies or districts that is required to be reimbursed pursuant to section 6 of article XIII B of the California Constitution.

Consideration of Alternatives. The regulation proposed in this rulemaking was the subject of discussions involving staff and the affected owners, operators, and sellers of stationary compression-ignition engines in California. A discussion of alternatives to the initial regulatory proposal is found in Chapter VII of the ISOR. These included a "no action" alternative; an option to rely on voluntary compliance with the U.S. Environmental Protection Agency's (U.S. EPA) standards for new nonroad diesel engines; an option to rely on local regulations; and an option to reduce by 85 percent the diesel PM emissions from all stationary diesel engines. Additional proposed alternatives were submitted by commenters during the rulemaking process and considered by the Board. For the reasons set forth in the ISOR, in staff's comments and responses at the hearings, and in this FSOR, the Board has determined that none of the alternatives considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

At the February 2004 hearing, the Board approved the regulation and proposed modifications. Furthermore, the Board directed staff to work with stakeholders regarding modifications or clarifications to the approved regulations. The following is a description of the modifications and clarifications, by section number.

A. Exemptions, Subsection 93115(c)

New Agricultural Engines ((c)(4)): Staff modified the exemption for new stationary CI engines used in agricultural operations to include an exemption from the recordkeeping and reporting requirements for owners and operators of new agricultural engines.

Single Cylinder Cetane Test Engines ((c)(5)): Staff modified the language to incorporate by reference the specified ASTM Method D 613-03b and refer to it by its full title.

Engines Meeting the Risk Management Guidance ((c)(6)): For clarity, staff modified the language from "…were required in writing by the district to meet either minimum…" to "…were required in writing by the district to meet and comply with either minimum…."

Military Training Engines ((c)(8)): Staff modified the exemption for military training engines to apply to used by the United States Department of Defense (U.S. DoD) or any other branch of the U.S. military for training and testing of its personnel or students in the specified activities.

San Nicolas and San Clemente Island Engines ((c)(9)): Staff inserted the explanatory terms for "APCO."

Nuclear Facility Engines ((c)(11)): Staff removed superfluous language, deleted the criterion requiring the engine to meet any additional criteria specified by a district, and modified the provision to be automatically operative once the specified criteria are met.

Low-Use Prime Engines Outside of Schools ((c)(12)): Staff reduced the applicable distance from school boundaries to 500 feet for consistency with the near-school provisions (see below). The staff also modified the exemption criteria to allow district discretion for using an annual number of hours of operation other than 20 hours, for engines used solely to start combustion (formerly "cogeneration") gas turbines, on a case-by-case basis with specified considerations.

National Aeronautics and Space Administration (NASA) Engines ((c)(17)): Staff modified the exemption to apply to engines used solely at manned space flight facilities to be consistent with NASA terminology.

Remotely Located In-Use Prime Engines ((c)(18)): Staff added a provision that allows a delay in implementation for remotely located in-use prime engines that are shown to have a health risk impact below specified levels.

Fuel Requirements Implementation Delay ((c)(19)): Staff added this new provision, which would allow districts to approve limited delays from the fuel requirements to allow owners and operators a reasonable time to use up fuel purchased prior to the ATCM's compliance dates; the extended date of compliance for the fuel requirements would be determined by the districts on a case-by-case basis with consideration of specified criteria.

B. Definitions, Subsection 93115(d)

Air Pollution Control Officer ((d)(2)): Staff added the acronym "APCO."

Alternative Diesel Fuel ((d)(4)): Staff modified the definition to be consistent with the definitions used in the incorporated *Verification Procedure, Warranty, and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* ("Verification Procedure," 13 CCR 2701).

CARB Diesel Fuel ((d)(7)): Staff modified the definition to be consistent with the definitions used in the Verification Procedure.

Cancer Risk ((d)(8)): Staff added this definition as part of the new provision for Remotely Located In-Use Prime Engines (see above).

Combustion Gas Turbine Engine ((d)(10))**:** Staff replaced "Cogeneration Gas Turbine Engine" (which was proposed as a new modification in the 1st 15-day Notice) with this term in support of the modification made to the Low-Use Prime Engine Exemption (see above.)

Demand Response Program (DRP) ((d)(14)): Staff added this definition as part of the new requirements for engines operating under DRPs (see below).

Diesel Fuel ((d)(15)): Staff modified the definition to be consistent with the definitions used in the Verification Procedure.

District ((d)(20)): Staff simplified the definition consistent with Health and Safety Code, section 39025.

DRP Engine ((d)(21)): Staff added this definition as part of the new requirements for engines operating under DRPs (see below).

Emergency Standby Engine ((d)(24)): Staff modified this definition to clarify the circumstances under which an engine will be considered to be an emergency standby engine.

Emergency Use ((d)(25)): Staff added a provision to include as an emergency use the pumping of water to maintain water pressure at a facility when specified events occur that result in the reduction of the facility's water pressure.

Enrolled ((d)(28)): Staff added this definition as part of the new DRP requirements.

Hazard Index ((d)(33)): Staff added this definition as part of the new provision for Remotely Located In-Use Prime Engines (see above).

Interruptible Service Contract ((d)(37)): Staff added this definition as part of the new DRP requirements and clarified it to include operation of an ISC engine during a transmission emergency.

Maintenance and Testing ((d)(41)): Staff modified this definition to specify additional circumstances that would qualify as “maintenance and testing” and to clarify that the operation of an emergency standby engine to provide power when a utility distribution company is performing preventative maintenance on power distribution equipment is to be classified as maintenance and testing operation and not emergency operation.

Maximum Rated Power ((d)(42)): Staff added this definition for consistency with the incorporated *Off-Road Compression-Ignition Engine Standards* (13 CCR 2423).

New or New CI Engine ((d)(44)): Staff added a provision to clarify that engines installed at a facility prior to January 1, 2005, then subsequently moved to another location within the same facility after January 1, 2005, are not considered as “new” engines.

Outer Continental Shelf ((d)(47)): Staff added this definition as part of the exemption for OCS engines in (c)(10).

Prioritization Score ((d)(52)): Staff added this definition as part of the new provision for Remotely Located In-Use Prime Engines (see above).

Rated Brake Horsepower ((d)(53)): Staff separated this definition into two parts, one each for new and in-use engines, and modified this definition to clarify that any acceptable value meeting the specified criteria could be used, independent of whichever is greatest.

Reconstruction ((d)(55)): Staff inserted the term “other” to clarify that the enumerated list of consumables is a subset of the items the replacement of which would not be a reconstruction.

Rolling Blackout Reduction Program ((d)(56)): Staff added this definition as part of the new DRP requirements and modified it to allow for the RBRP to be implemented in the event of a transmission emergency.

School ((d)(58)): Staff modified this definition to include the term “school grounds” and to include any building, structure, playground, athletic field, or other improved areas of school property.

Stage 2 Alert ((d)(61)): Staff added this definition as part of the new DRP requirements.

Stage 3 Alert ((d)(62)): Staff added this definition as part of the new DRP requirements.

Stationary Source ((d)(64)): Staff modified this definition for consistency with the definition for “Stationary Source” in the Portable Diesel Engine ATCM rulemaking, which was heard by the Board at the February 26, 2004, hearing.

Transmission Constrained Area ((d)(65)): Staff added this definition in support of the modifications made to the Rolling Blackout Reduction Program and the Interruptible

Service Contract definitions relating to relating to transmission emergencies (see above).

Transmission Emergency ((d)(66)): Staff added this definition in support of the modifications made to the Rolling Blackout Reduction Program and the Interruptible Service Contract definitions relating to transmission emergencies (see above).

C. Requirements, Subsection 93115(e)

All Engines: Fuel and Fuel Additive Requirements. In (e)(1)(A), staff modified the language to include prohibitory language (i.e., "no person shall fuel the engine") to replace the former mandatory language ("all new…engines…shall use only fuel…"). Also, staff modified subsection (e)(1)(A) to apply only to new engines and to in-use prime engines. Staff extended the compliance date from January 1, 2005, to January 1, 2006, to account for the additional rulemaking time that was necessary to comply with Executive Order S-2-03. Staff also added a new subsection (e)(1)(B) that prohibits the addition of fuel and fuel additives into the engine or any directly-attached fuel tanks that do not meet the specified criteria after January 1, 2006. This is intended to allow the continued use of fuels that do not meet the specified criteria and were purchase prior to January 1, 2006, while requiring that any fuel purchased after that date meet the ATCM requirements.

New and In-Use Emergency Engines: At-School and Near-School Provisions. Staff added near-school provisions in (e)(2)(A)1., (e)(2)(B)2., (e)(2)(F)1. and (e)(2)(F)2.. These provisions establish a "buffer zone" of 500 feet from a school within which an engine would not be allowed to operate for non-emergency use between 7:30 a.m. and 3:30 p.m. when school is in session. Consistent with the Board's direction to encourage use of the cleanest engines, staff also modified the language to provide an exemption to this buffer zone provision if the engine emits no more than 0.01 g/bhp-hr.

New and In-Use Emergency Engines: Rotating Outage Provisions. Staff modified (e)(2)(A)2. and (e)(2)(B)1. and added (e)(2)(F)1.b. and (e)(2)(F)2.b., to clarify that a qualifying engine must be located in a specific location within the control area that is subject to an ordered rotating outage, rather than merely being located in the entire control area.

Table 2. In (e)(2)(B)3., staff added Footnote 3 in Table 2 for consistency with Table 1 and to clarify that the option to comply with the Tier 1 standards is available only if no off-road engine certification standards have been established for an off-road engine of the same model year and maximum rated power as the new stationary engine.

New and In-Use Emergency Engines: Additional Standards. In (e)(2)(A)3., (e)(2)(B)3., (e)(2)(E), and (e)(2)(F), staff added the option for owners and operators of stationary engines to meet off-road engine standards of the same model year and maximum rated power, as specified in 13 CCR 2423. If no off-road standards are

specified for the same model year and maximum rated power as the stationary engine, the owner or operator has the option of meeting the Tier 1 standards in 13 CCR 2423 for an off-road engine of the same maximum rated power, regardless of the stationary engine's model year.

Table 4. For controlling non-diesel PM emissions from engines with emission control strategies that have not been verified through the Verification Procedure, staff added in (e)(2)(D) the option of meeting either the off-road engine certification standards or the Tier 1 standards specified in 13 CCR 2423, depending on which specified criteria the stationary prime engine meets. Staff also added Footnote 1 to this table to clarify when this option applies. Finally, staff made modifications to this table to clarify that Options 1, 2, and 3 are available for in-use prime engines that are not certified with the off-road standards (13 CCR 2423).

In-Use Prime Engines: Additional Standards. In (e)(2)(D)2., staff added the option for owners and operators of stationary engines to meet off-road engine standards of the same model year and maximum rated power, as specified in 13 CCR 2423. If no off-road standards are specified for the same model year and maximum rated power as the stationary engine, the owner or operator has the option of meeting the Tier 1 standards in 13 CCR 2423 for an off-road engine of the same maximum rated power, regardless of the stationary engine's model year.

Table 5. Staff modified Footnote 1 to clarify that the exemption for engines funded under State or federal incentive funding programs pertain to those programs identified in subsection (e)(2)(E)2.

New and In-Use Emergency Engines: Demand Response Programs (DRPs). At the Board's direction, staff added (e)(2)(F) to specify requirements for engines that are enrolled in either Interruptible Service Contracts (ISCs) or the Rolling Blackout Reduction Program (RBRP), two of the identified forms of DRPs. Staff also modified the initial compliance date for in-use DRP engines enrolled in an ISC prior to January 1, 2005, changing it from July 1, 2005 to January 1, 2006.

Engines Less or Equal to 50 Brake Horsepower ((e)(3)): Staff replaced "person" with "owner or operator" for consistency with the terms used elsewhere in the ATCM. Staff also replaced "horsepower rating" with "maximum rated power."

Recordkeeping, Reporting, and Monitoring Requirements: Reporting. In (e)(4), Staff modified the list of required engine information to include stack outlet diameter, direction of the outlet (horizontal or vertical), and whether the stack end is open or capped. Staff also modified the language to clarify that the information required pertaining to offsite receptors includes nearest receptor description (receptor type), distance to the nearest receptor (in feet or meters), and distance to the nearest school grounds. In addition, staff modified the language to allow an exemption from reporting if the specified information that's required can be found in the permit application or in District records. For agricultural engines ((e)(4)(B)) and engines less than or equal to

50 bhp ((e)(4)(C)), staff modified the reporting requirements to become effective on January 31, 2006, and January 31st of each subsequent year, and staff clarified that each year's report covers the previous calendar year.

Recordkeeping, Reporting, and Monitoring Requirements: Notification of Loss of Exemption. In (e)(4)(F), staff modified the language to make it clear that owners and operators of engines used in agricultural operations that are exempt from subsection (e)(2)(E)2. must meet the requirements of that subsection if the exemption becomes ineffective on or prior to January 1, 2008.

Recordkeeping, Reporting, and Monitoring Requirements: Monitoring Equipment. In (e)(4)(G)1. and (e)(4)(G)2., staff modified the language to specify a compliance date upon engine installation or no later than January 1, 2005. Staff also modified the language to provide Districts with flexibility to require a different minimum display capability than the specified requirement if the District determines on a case-by-case basis that a different display capability is appropriate based on an engine owner's compliance history and the historical use of the engine. In (e)(4)(G)2., staff also modified the language to clarify that the backpressure monitor, required for all diesel particulate filters (DPFs) installed pursuant to subsection (e)(2), must be installed upon engine installation or by no later January 1, 2005. Finally, in (e)(4)(G)3., the staff deleted a superfluous reference to H&SC 39666(d).

Recordkeeping, Reporting, and Monitoring Requirements: Exempted Prime Engines. In (e)(4)(H), staff deleted the requirements for nuclear facility engines subject to the exemption in (c)(11).

Recordkeeping, Reporting, and Monitoring Requirements: Reporting Requirements for Emergency Engines. In (e)(4)(I), staff clarified the language to require the monthly usage log to include documentation of the nature of each use of the engine. Staff also added the hours of operation to comply with NFPA-25 requirements to the list of reportable activities in the monthly use log. Staff further clarified that the requirement to log the hours of operation to comply with NFPA-25 requirements is only required if applicable. Staff also added fuel purchase recordkeeping requirements for owners and operators of in-use emergency standby diesel-fueled engines.

Recordkeeping, Reporting, and Monitoring Requirements: Reporting Requirements for DRP Engines. In (e)(4)(J) and (e)(4)(K), staff added recordkeeping and reporting requirements that are unique to engines operating under a DRP. These requirements are applicable to the San Diego Gas and Electric Company, which runs the RBRP, and owners and operators with engines enrolled in ISC programs.

D. Compliance Schedules, Subsections 93115(f) and (g)

Compliance Schedules. Staff modified the titles for these subsections to make it clear that the threshold number of engines applies to engines located within the same district.

Thus, the schedule that applies to "3 or Fewer Engines" applies to owners and operators of 3 or fewer engines that are all located within the same district. For owners and operators of four or more engines within the same district, staff changed the compliance date for pre-1989 through 1989 model year engines from January 1, 2006, to January 1, 2007. The percentage of these engines required to be in compliance by January 1, 2007, remains unchanged at 50 percent relative to the initial proposal in the ISOR.

G. Test Methods, Subsection (i)

Staff deleted a superfluous reference to H&SC 39666(d) in (i)(2).

F. Severability, Subsection (j)

Staff added a severability provision to ensure that, if any portion of the ATCM is deemed invalid and unenforceable, the remaining regulatory requirements would still be valid and enforceable.

In addition to the modifications detailed in this FSOR, staff made other minor modifications in the regulatory text to improve clarity; to correct spelling, typographical errors, and grammar; to make numbering adjustments; and to correct citations and references.

III. SUMMARY OF COMMENTS AND AGENCY RESPONSES TO THE ORIGINAL PROPOSAL

The Board received numerous written and oral comments in the formal rulemaking comment period leading up to the November 2003, December 2003, and February 2004 Board Hearings. Because of the rulemaking delay mandated by Executive Order S-2-03, the "45-day" comment period was substantially longer than 45 days, beginning with the notice publication on September 26, 2004, and ending with the closing of the record on February 26, 2004. A list of commenters is set forth below, identifying the date and form of all comments that were timely submitted. Following the list is a summary of each objection or recommendation made regarding the proposed action, together with an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments not involving objections or recommendations specifically directed towards the rulemaking or to the procedures followed by the ARB in this rulemaking are not summarized below. Additionally, any other referenced documents are not summarized below.

We received comments from the following that were generally supportive of the regulation or the rulemaking process:

Association of California Water Agencies (ACWA)
American Lung Association of California (ALAC)
Antelope Valley Air Quality Management District (AVAQMD)
California Air Pollution Control Officers Association (CAPCOA)
California Council for Environmental and Economic Balance (CCEEB)
City of Thousand Oaks (CITYTO)
California Ski Industry Association (CSIA)
Department of Water and Power, City of Los Angeles (DWPCLA)
Engine Manufacturers Association (EMA)
Eastern Municipal Water District (EMWD)
Environmental Defense (ENVIR)
Lake County Air Quality Management District (LAKE)
Manufacturers of Emission Controls Association (MECA)
Mojave Desert Air Quality Management District (MDAQMD)
National Biodiesel Board (BIO)
Southern California Alliance of Publicly Owned Treatment Works (SCAP)
South Coast Air Quality Management District (SCAQMD)
Western Municipal Water District (WMWD).

Comments Received during the 45-day Comment Period

Abbreviation	Reference Number	Commenter
ACWA	ACWA 1	Dan Smith Director of Regulatory Affairs Association of California Water Agencies written testimony: November 19, 2003
	ACWA 2	Dan Smith Director of Regulatory Affairs Association of California Water Agencies oral testimony: November 20, 2003
AIR	AIR 1	John Gibbs Chair Air Issues and Regulations Committee written testimony: November 19, 2003
	AIR 2	John Gibbs Chair Air Issues and Regulations Committee written testimony: December 9, 2003

ALAC	ALAC 1	Bonnie Holmes-Gen American Lung Association of California oral testimony: November 20, 2003
	ALAC 2	Bonnie Holmes-Gen American Lung Association of California oral testimony: December 11, 2003
	ALAC 3	Bonnie Holmes-Gen American Lung Association of California oral testimony: February 26, 2004
AVAQMD	AVAQMD 1	Charles Fryxell Air Pollution Control Officer Antelope Valley Air Quality Management District (AQMD) written testimony: November 18, 2003
	AVAQMD 2	Charles Fryxell Air Pollution Control Officer Antelope Valley Air Quality Management District oral testimony: November 20, 2003
	AVAQMD 3	Richard Wales Antelope Valley Air Quality Management District written testimony: November 18, 2003
BAFB	BAFB	Edison Wong Beale Air Force Base written testimony: December 4, 2003
BIO	BIO	Joe Jobe Executive Director National Biodiesel Board written testimony: February 24, 2004
BP	BP	David Smith British Petroleum written testimony: February 24, 2004
CANG	CANG	Mark Duncan California National Guard written testimony: October 1, 2003

CAPCOA	CAPCOA 1	Barbara Lee California Air Pollution Control Officers Ass'n written testimony: November 19, 2003
	CAPCOA 2	Barbara Lee California Air Pollution Control Officers Ass'n oral testimony: November 20, 2003
CCA	CCA	Todd Campbell Coalition for Clean Air oral testimony: December 11, 2003
CCEEB	CCEEB 1	Victor Weisser President California Council for Environmental and Economic Balance written testimony: December 2, 2003
	CCEEB 2	Victor Weisser President California Council for Environmental and Economic Balance written testimony: February 13, 2004
	CCEEB 3	Cindy Tuck California Council for Environmental and Economic Balance oral testimony: February 26, 2004
CHEV	CHEV	Neal Truong Air Regulatory Specialist Chevron Products Company written testimony: February 17, 2004
CIOMA	CIOMA	Jay McKeenan California Independent Oil Marketers Association oral testimony: December 11, 2003
CITYTO	CITYTO	Carolyn Green Senior Analyst City of Thousand Oaks oral testimony: November 20, 2003

CLEAIRE	CLEAIRE 1	Tom Swenson Cleaire oral testimony : February 26, 2004
	CLEAIRE 2	Tom Swenson Cleaire written testimony: February 26, 2004
CONOCO	CONOCO 1	Andrew Lee Planning, Rule Development, and Area Sources Conoco Phillips written testimony: February 18, 2004
CSIA	CSIA	Mike Dillon Executive Director California Ski Industry Association written testimony: November 18, 2003 oral testimony: November 20, 2003
DWPCLA	DWPCLA 1	Mark J. Sedlacek Manager of Environmental Affairs Department of Water and Power, City of Los Angeles written testimony: February 23, 2004
EMA	EMA 1	Timothy French Neal, Gerber & Eisenberg LLP, for the Engine Manufacturers Association written testimony: November 17, 2003
	EMA 2	Timothy French Neal, Gerber & Eisenberg LLP, for the Engine Manufacturers Association written testimony: November 18, 2003
	EMA 3	Timothy French Neal, Gerber & Eisenberg LLP, for the Engine Manufacturers Association written testimony: November 19, 2003
	EMA 4	Timothy French Neal, Gerber & Eisenberg LLP, for the Engine Manufacturers Association oral testimony: November 20, 2003

EMWD	EMWD 1	Daniel McGivney Eastern Municipal Water District oral testimony: February 26, 2004
ENVIR	ENVIR 1	Kate Larsen Policy Associate Environmental Defense written testimony: November 18, 2003
	ENVIR 2	Kate Larsen Environmental Defense written testimony: November 19, 2003
	ENVIR 3	Kate Larsen Environmental Defense oral testimony: November 20, 2003
	ENVIR 4	Kate Larsen Environmental Defense oral testimony: February 26, 2004
EUR	EUR 1	Dr. Hatmut Mayer Euromot written testimony: November 18, 2003
	EUR 2	Pinelopi Vacra Euromot written testimony: November 18, 2003
FI	FI 1	Mark Burns Air Quality Program Manager Fort Irwin written testimony: October 29, 2003
IMC	IMC	Ross May Environmental Engineer IMC Chemicals written testimony: October 20, 2003
JEAN	JEAN	Martha Gurrola Jean Private Citizen written testimony: October 8, 2003

KJC	KJC 1	David Rib Vice President KJC Operating Company written testimony: November 19, 2003
	KJC 2	David Rib Vice President KJC Operating Company written testimony: February 18, 2004
LAKE	LAKE	Robert L. Reynolds Air Pollution Control Officer Lake County Air Quality Management District written testimony: February 23, 2004
LECS	LECS	Kevin Brown Assistant Technology Manager Lubrizol Engine Control Systems written testimony: November 18, 2003
LVMWD	LVMWD 1	James Colbaugh General Manger Las Virgenes Municipal Water District written testimony: November 18, 2003
	LVMWD 2	John Mundy Director of Facilities and Operations Las Virgenes Municipal Water District written testimony: November 20, 2003
	LVMWD 3	John Mundy Director of Facilities and Operations Las Virgenes Municipal Water District oral testimony: November 20, 2003
M&E	M&E	Joerg Blischke Metcalf and Eddy written testimony: February 8, 2004
MD&AV	MD&AV	Richard Wales Air Pollution Control Officer Mojave Desert AQMD Antelope Valley AQMD written testimony: October 29, 2003

MDAQMD	MDAQMD	Charles Fryxell Air Pollution Control Officer Mojave Desert AQMD written testimony: November 18, 2003
MECA	MECA 1	Dale McKinnon Executive Director Manufacturers of Emission Controls (MECA) written testimony: November 19, 2003
	MECA 2	Bruce Bertelson MECA oral testimony: November 20, 2003 written testimony: November 20, 2003
MORALEZ	MORALEZ	David Moralez 206 Second Street Davis, CA 95616 written testimony: February 25, 2004
MPAA	MPAA 1	Sharon Rubalcava Motion Picture Association of America oral testimony: February 26, 2004
	MPAA 2	Melissa Patrick Motion Picture Association of America written testimony: February 18, 2004
MWDSC	MWDSC 1	Jill Wicke Manager, Water System Operations Municipal Water District of Southern California written testimony: November 19, 2003
	MWDSC 2	Carol Kaufman Senior Environmental Specialist Municipal Water District of Southern California oral testimony: November 20, 2003
NAVY	NAVY 1	A.J. Gonzales Department of the Navy written testimony: February 24, 2004
QW	QW	Brian Jacobson Director, Environmental Management Qwest Communications written testimony: November 11, 2003

SBC	SBC 1	Linus Farias SBC oral testimony: December 11, 2003
SCAP	SCAP 1	Raymond Miller Executive Director Southern California Alliance of Publicly Owned Treatment Works (SCAP) written testimony: November 18, 2003
	SCAP 2	Mary Jane Foley SCAP oral testimony: November 20, 2003
	SCAP 3	Mary Jane Foley SCAP oral testimony: February 26, 2004
	SCAP 4	Raymond Miller Executive Director Southern California Alliance of Publicly Owned Treatment Works (SCAP) written testimony: December 9, 2003
SCAQMD	SCAQMD 1	Barry Wallerstein South Coast Air Quality Management District (SCAQMD) written testimony: October 15, 2003
	SCAQMD 2	Elaine Chang Deputy Executive Director SCAQMD oral testimony: November 20, 2003
SCE	SCE 1	Martin Ledwitz Southern California Edison oral testimony: February 26, 2004
SDAPCD	SDAPCD 1	Richard Smith Director Air Pollution Control District County of San Diego (SDAPCD) oral testimony: November 20, 2003

	SDAPCD 2	Richard Smith SDAPCD written testimony: November 19, 2003
	SDAPCD 3	Michael R. Lake Assistant Director Air Pollution Control District Written testimony: February 23, 2004
SPPC	SPPC 1	Darrell Soyars Senior Air Quality Engineer Sierra Pacific Power Company written testimony: November 18, 2003
USMC	USMC	Anthony J. Wendel Colonel, U.S. Marine Corps Program Officer written testimony: February 24, 2004
VAFB	VAFB	John Gilliland Vandenberg AFB/URS Corporation written testimony: November 6, 2003
WMWD	WMWD	Daniel McGivney Western Municipal Water District November 20, 2003 oral testimony: November 20, 2003
WSPA	WSPA	Gina Grey Manager Western States Petroleum Association written testimony: December 9, 2003

A. Emission Limits and Operating Requirements (General)

1. Comment: Emission standards for stationary diesel-fueled compression ignition engines should be realistic, giving the industry a chance to develop suitable cost-effective technology to comply. Unfortunately, in this respect, the proposed emission limits for bigger diesel-fueled stationary compression ignition engine plants do not satisfy. (EUR 1, EUR 2)

Agency Response: We disagree with this comment. As amply demonstrated in the Staff Report, the emission standards are realistic, and there is suitable cost effective technology available for all engine sizes. For emergency stand-by engines, new engines meeting the emission standards are available in all horsepower (hp) ranges.

For those engines requiring add-on controls, there is technology currently available that can be used to comply with the emission standards. The Staff Report lists over 50 examples of diesel emission control systems (DECS) installed on a wide range of engine horsepower. The engines listed in the Staff Report have horsepower ratings ranging from less than 50 hp to over 2000 hp for prime engines and over 6000 hp for emergency standby engines.

The feasibility of the standards has been demonstrated in existing large engines. For example, a Caterpillar 3516B 2848 hp engine, considered one of the biggest stationary engines in California, has been in use in Kings County for several years with a DECS installed. The engine operators have not experienced any problems associated with the diesel particulate filter. This engine was also tested extensively, which provided information to verify the DECS system with the ARB as demonstrating an 85% emission reduction. (Staff Report, pp. 92-116)

2. **Comment:** Engines in the survey [used by the ARB to develop the ATCM] are very small, not representing the whole engine spectrum used in liquid-fired stationary power plants. (EUR 1, EUR 2)

Agency Response: We disagree. As discussed in the previous comment, the engines listed in the Staff Report represent a broad range of horsepower ratings, ranging from less than 50 hp to over 6000 hp. The survey results were self-reported by engine owners and operators throughout the State. Both surveys (for emergency engines and prime engines) covered the major engine manufacturers (Cummins, Caterpillar, Detroit Diesel), which combined represent over 72 percent of all stationary engines reported in the survey. Of the approximately 3,000 surveys distributed that covered emergency engines, over 800 were returned with data for approximately 3,200 engines, representing a sampling rate of about 27 percent. For prime engines, we received 59 completed surveys out of the 560 the were sent, representing a sampling rate of approximately 11 percent. These survey results represent the best available, self-reported engine population data. Based on the survey results and relatively high sampling rates, we are confident that the survey results for both prime engines and emergency engines are representative of the stationary engine population in California.

It should be noted that the typical or average engine size for the California engine population probably does not follow the population statistics in Europe, Asia, and elsewhere in the world. This is probably because other countries depend on stationary diesel engines to a substantially greater degree than operators in California.

3. **Comment:** The ATCM is flawed because emissions from stationary power plants versus automotive engines are not comparable due to different test parameters (test cycle, test fuels, measurement procedures). Also, the composition of PM differs due to the different fuel used. In addition, stationary power plants are usually operated in a steady state high load mode (boilers, gas turbines and engine driven plants), thus the situation of particulate emissions is different from that of automotive engines operating in transient conditions. The technique of

bigger stationary engines used in power plants differ from that of small engines used in trucks, off-road applications, etc. A big stationary engine has higher combustion temperatures and pressures in the cylinders compared to the truck engines. High temperatures and pressures improve the combustion quality and consequently lower the particulate emissions. (EUR 1, EUR 2)

Agency Response: We agree in part and disagree in part. We agree that automotive and stationary diesel engines operate differently and therefore require different treatment. This is exactly the reason why we developed the ATCM using data and technologies specific to stationary engine applications (see Staff Report, pp. 92-113). Thus, we disagree with the commenter's incorrect suggestion that the ATCM relies on automotive and off-road technologies, because the ATCM clearly does not.

It is true that some of the technologies used in stationary applications derive from mobile applications, but that is only because efforts to control pollution from mobile engines began much earlier than the programs for stationary engines. However, the existing and developing stationary applications in California already account for the differences in operational modes between the two types of applications. Therefore, it is erroneous for the commenter to suggest that the ATCM is mandating the use of mobile controls on stationary engines. Rather, the ATCM is requiring a more extensive use of existing stationary controls, developed for use specifically on stationary engines, on the affected stationary engines.

4. **Comment:** Particulate traps under development for mobile sources will technically not be suitable for bigger engines. (EUR 1, EUR 2)

Agency Response: This comment was addressed in our response to Comments 1 and 3 above.

5. **Comment:** Fuels used in bigger engines might greatly vary and the technique listed in the CARB survey are not technically available for bigger stationary engine drive power plants. (EUR 1, EUR 2)

Agency Response: We disagree. While the ATCM allows engine operators to use a variety of different fuels (e.g., CARB diesel, verified alternative diesel, alternative fuels, non-verified alternative diesel that meets specified criteria), the variety of fuel options was designed into the ATCM to provide engine owners with a high degree of flexibility for reducing emissions. However, the quality of the fuel actually used is subject to rigorous standards. CARB diesel, for example, is subject to specific standards and requirements in a separate regulation (i.e., meets ASTM D975-81 and 13 CCR 2282, 2282, and 2284). Verified fuels are required to undergo a rigorous application and demonstration, as specified in the "Verification Procedure" (13 CCR 2700-2710).

Irrespective of the fuel used, the Staff Report discusses the use of the allowable fuels and how those fuels will help engine operators meet the ATCM requirements. In some cases, engine operators may need to use a fuel in conjunction with some other control

strategy, ranging from reduced non-emergency uses (i.e., maintenance and testing) to installing add-on controls (see Staff Report, pp. 92-113).

Based on our analysis, we believe the fuels allowed under the ATCM can be used in all the regulated engines, including the larger engine sizes.

6. **Comment:** Stationary power plants are usually run at high steady load conditions and different measurement methods such as U.S. EPA Method 5B are often used compared to those for off-road engines. Therefore, in Europe and Japan stationary engines and off-road engines have their own different specific emission limits. (EUR 1, EUR 2)

Agency Response: We agree. The ATCM specifies a variety of test methods that can be used, including CARB Method 5, ISO 8178, the test procedures in 13 CCR 2423, CARB Method 100 (for NOx, CO, and HC), and alternative methods approved by the districts as equivalent in accuracy to the above. Therefore, the ATCM already recognizes the need to treat stationary engines differently from mobile and off-road engines (i.e., through different emission limits and test methods), and it provides a wide variety of options for testing the exhaust from stationary engine. No additional modifications are required.

7. **Comment:** For bigger diesel fueled engines, no secondary emission abatement technique exists today to achieve a particulate emission limit of 0.01 g/bhp-hr, which is a very strict emission limit. (EUR 1, EUR 2)

Agency Response: We disagree for several reasons. First, under the ATCM, the vast majority of emergency engines are not required to meet this emissions level. Instead, an emergency engine would need to meet this level only under very limited circumstances: (1) when non-emergency (maintenance and testing) uses of the engine exceed 50 hours per year; and (2) when an engine within the 500 feet buffer zone near schools is operated for non-emergency use between 7:30 a.m. and 3:30 p.m. when school is in session. In either case, the 0.01 g/bhp-hr limit applies because the engine owner chooses to operate under those conditions. Therefore, the limit is not mandated on emergency engines unless the owner chooses to operate under the specified conditions and, in those limited cases, the owner can use a combination of emission reduction techniques to meet this level. These techniques, including specific examples of applications on large engines, are discussed in the Staff Report, pages 92-113.

Second, for new prime engines, there appears to be a general consensus among the stakeholders that 0.01 g/bhp-hr is achievable through applications of existing and developing technologies. Low emission levels are less problematic for new engines because they can be designed “from the ground-up” to incorporate such technologies. The comments we received during our 8 workshops and the formal rulemaking process show no significant contradiction of this general consensus.

Third, for existing prime engines, the engine owner has a variety of choices, depending on whether the engine is certified as meeting the off-road engine standards. For off-road certified engines, the owner can choose to either meet the 0.01 g/bhp-hr standard or reduce the engine's diesel PM emissions by 85 percent relative to its baseline emissions. On page 111 of the Staff Report, we discussed the results of the technology demonstration program that we conducted as part of the rule development process. In the demonstration program, passive and active diesel particulate filters were demonstrated to reduce baseline emissions by greater than 90 percent (for passive DPFs) up to greater than 99 percent (for active DPFs). Thus, there are demonstrated technologies that can achieve greater than an 85 percent reduction in diesel PM. While these technologies were demonstrated for engines at slightly less than 500 hp, we are aware of no significant technical reasons why these and other control technologies cannot be applied successfully to engines larger than 750 hp.

Based on these reasons, we believe existing and under-development diesel PM control technologies can be applied successfully to larger diesel engines to achieve a 0.01 g/bhp-hr level.

8. **Comment:** Smaller diesel engines, those with a rated output from 50 hp (37 kW) up to 750 hp (560 kW), should be subject to the ATCM. For this power range, secondary abatement techniques for particulates exist as mentioned in staff's study and, depending on the application, might be applied. However, larger engines above 560 kW (750 hp) should be exempted from the proposed rules and separate rules need to be developed (see e.g., U.S. EPA marine sector approach above). This is because there exists no commercially available secondary particulate abatement technology in order to reach the proposed limits at the moment and that the limits proposed therefore do not represent best available technology for this engine category. (EUR 1, EUR 2)

Agency Response: We disagree. As discussed in our responses to Comments 1 through 7 above, we developed the ATCM requirements using engine and control technology data that are representative of the existing engine population. Moreover, as we discussed in the Staff Report and in our responses to Comments 1 through 7 above, the control technologies, if they are required in an application, can be applied throughout the range of engine sizes in California, including larger engines (those rated at greater than 750 hp).

Comparison of the stationary diesel engine ATCM with the U.S. EPA's marine engine regulations is not dispositive. This is because marine vessel regulations generally use a much "dirtier" fuel (e.g., bunker/residual fuel with thousands of times greater sulfur content than CARB diesel), and marine vessel engines generally have not been subject to air pollution control regulations to the same degree as California engines. Therefore, the available control technologies and practical applications of such technologies in stationary and marine engines vary dramatically, requiring different treatment for the two types of applications.

9. Comment: "Subsections (e)(2)(B) 3.b.I and (e)(2)(B) 1.b.I of the referenced measure require owners and operators that choose to meet the diesel PM standards with emission control strategies that are not verified through the Verification Procedure shall not increase CO emission rates by more than 10% above baseline. ECS believes that an allowable increase expressed as a percentage over baseline is an overly restrictive requirement that may give rise to unintended consequences. ECS instead suggests that a more appropriate measure of the allowable increase be up to an allowable mass emission rate value."

"ECS recommends instead that the CO emission increase limit be based on the off-road emission standard that applies to the engine. Thus, ECS would recommend that ARB allow any increase in CO emissions with the application of a PM emission control strategy that has not been verified, provided the CO emissions after control still meet the off-road emission standard that applies to the engine being retrofitted. Such a basis places new engine performance and engine retrofit performance on a level playing field." (LECS)

Agency Response: We agree with the comment that the CO restriction, by itself, did not provide sufficient flexibility. Therefore, the staff modified the regulatory text to require owners or operators that choose to meet the diesel PM standards with unverified emission control strategies the option to either demonstrate that the engine meets the applicable HC, NOx, NMHC + NOx, and CO standards for off-road engines of the same model year or not increase the emission rates of CO, HC, or NOX by more than 10% above baseline. However, we disagree with the commenter's suggestion to allow unlimited increases in CO emissions, provided the off-road standard is met after retrofitting. We believe allowing an unlimited CO increase is not only contrary to protecting the public health, but it is also unwarranted given the various options and flexibility provided by the proposed regulation as modified.

10. Comment: Some electrical generation facilities must go "black" (i.e., no out going or incoming power) to test the switching equipment located between the power plant and the grid. The only source of power for the generation station then becomes the emergency generators. Going "black" can take 10 or more hours per year. The question is does this time count against the 200 hours per year or against the "maintenance or [sic] testing hours"? ' (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: Under the definition for "Maintenance and Testing" in subsection 93115(d)(41)(C), "maintenance and testing" includes operating an emergency standby engine to, among other things, provide electric power for a facility when the utility distribution company takes its power distribution equipment offline to service that equipment for any reason that does not qualify as an emergency use (i.e., transmission line maintenance)). Under the definition for "Emergency Use" in subsection 93115(d)(25), an emergency use does not include operation of an engine when power fails pursuant to a contractual agreement (i.e., power is intentionally cut off) and the

power failure is within the reasonable control of the facility operator. Thus, the answer to the commenter's question depends on whether the facility owner has a contract with the utility distribution company that provides for the possibility of a power shutoff to the facility due to transmission line maintenance. If a facility has an such agreement with a power provider to go off-line during transmission line maintenance, then the hours at issue for the commenter would be counted toward the engine's applicable limit on maintenance and testing hours.

11. Comment: In-use and new diesel engines operating at high altitudes cannot achieve a diesel particulate emission limit of 0.01 g/bhp-hr. (CSIA)

Agency Response: We agree that in-use prime engines operating at high altitudes may have some difficulty achieving a 0.01 g/bhp-hr diesel PM emissions level. This issue does not affect emergency engines operating at high altitudes, because those engines are not required to meet a 0.01 g/bhp-hr standard. We therefore modified the regulation to provide additional flexibility and time for operators of these engines to install complying engines or retrofit compliant technologies.

In developing the ATCM, staff discussed with the California Ski Industry Association and diesel engine manufacturers the effect of high-altitudes on diesel engine emission rates. In general, diesel engines that operate at high elevations (~>6,000 feet above sea level) must use a greater amount of fuel to achieve the same power output and engine speed as a similar engine operating at lower elevations, thereby causing more diesel PM to be emitted. This is due to the fact that the air is "thinner" (i.e., has less oxygen) at higher elevations, and less air and fuel in the cylinder means less power. Turbocharging an engine has lessened the impact of elevation on engine performance, but the effect is still there to a degree.

The staff modified subsection 93115(e)(2)(D) to address this issue in several ways. First, for in-use prime engines that are certified as meeting the off-road standards, operators would have the option of meeting either an 85% reduction in diesel PM from baseline levels or meeting the 0.01 g/bhp-hr standard. Second, for in-use prime engines that are not certified as meeting the off-road standards, operators would have, in addition to the two options noted above, the third option of first reducing their emissions by 30% from baseline levels by January 1, 2006, then further reducing emissions to 0.01 g/bhp-hr by July 1, 2011. In addition, the local air districts in which these high-altitude engines reside can, under Health and Safety Code section 39666(d), adopt and implement standards for these engines that differ from the ATCM, provided those districts can demonstrate that the alternative standards are no less effective than the ATCM's requirements.

For new prime engines, we established a diesel PM emission standard that reflects the emission level of the best-controlled diesel engines available – 0.01 g/bhp-hr. This emission level is achievable through the application of diesel particulate filter (DPF) technology, as discussed in Appendix F ("Basis for the Diesel PM Standards") of the Staff Report. To comply with this standard, an owner could purchase an engine/DPF

system that has been emission tested and shown to meet the 0.01 g/bhp-hr standard. (By the year 2011, we anticipate that the owner will be able to purchase an off-road certified engine that meets 0.01 g/bhp-hr.) The ATCM does not specify that emission testing to show compliance with the standard be conducted at any specific elevation, nor does it specify that the testing be conducted at the end-location of the engine. It was our intent that the emission-tested engines and engine/DPF systems that meet the ATCM emission standards could be used throughout California, including at higher elevations.

12. Comment: The ATCM recognizes that diesel particulate control devices cannot be installed on in-use diesel-fueled engines equipped with SCR controls. (CSIA)

Agency Response: We disagree. It is erroneous to conclude that DPFs cannot be installed on an engine already outfitted with an SCR and that the ATCM reflects this notion. Rather, the ATCM reflects the technical complexities that are encountered when installing both a DPF and a SCR on an engine and provides for district flexibility in determining whether or not PM controls should be required as a condition of permit.

B. Emergency Standby Engine Emission Limits And Operating Requirements

1. Comment: Qwest opposes the operating requirements that limit the annual maintenance and testing hours for emergency standby diesel-fueled CI engines. The proposed requirements will limit the maintenance and testing hours depending upon the diesel particulate matter (PM) emission factors. According to Cummins and Caterpillar, the recommended maintenance and testing practices is to run the engine for at least 30 minutes on a weekly basis, totaling 26 hours per year. The National Fire Protection Association (NFPA) requires routine maintenance and operational testing program to be based on the manufacturer's recommendations. CARB has proposed to limit the operating hours of engines that emit diesel PM greater that 0.4 g/bhp-hr to 20 hours per year. According to the equipment manufacturers, limiting the operating hours to levels below their recommended practices will increase malfunction rate and reduce combustion efficiency, which could result in additional SO2 NOx and PM.

The air districts already have specific rules and regulations that prohibit businesses to operate emergency standby generators as electrical shaving units or to reduce demand when service has not failed. Also, it does not make economic sense to operate the engine more than manufacturer's recommended maintenance and testing practices. Therefore, the proposed operating requirements are inappropriate and unnecessary. (QW)

Agency Response: We disagree with this comment. As shown in the Staff Report, the limits on maintenance and testing are feasible, appropriate and necessary to protect public health. Because actual emergencies are relatively rare, most emergency standby engines are seldom used during a year, with maintenance and testing activities

accounting for the vast majority of the annual use for these engines. However, when the standby engines are operated during frequent maintenance and testing, significant diesel PM emissions occur, resulting in substantial public exposure to diesel PM. Therefore, the thrust of the ATCM's provisions for emergency engines is focused on reducing excessive maintenance and testing activities.

Maintenance and testing practices vary significantly throughout the stationary source engine population. To protect public health while providing the flexibility to accommodate these practices as much as feasible, we designed the regulation so that operators can choose which emission limit and its associated hour limit for maintenance and testing (M&T) will best fit the operator's needs. As the commenter notes, the regulation provides a tiered approach to limits on emissions and hours for maintenance and testing. If an engine emits lower levels of diesel PM, the operator is permitted more hours for M&T activities. Conversely, if the engine emits higher levels of diesel PM, the operator would be allowed fewer M&T hours. To illustrate, engine owners have the option of using up to 30 hours per year if the engine can meet a 0.4 g/bhp-hr emission level. As specified in subsection 93115(e), if the owner wants more hours for M&T activities, the owner can retrofit controls to bring the emissions down to the desired level. ARB staff believe that the provided tier structure and operating hour limits listed in Table 2 of the regulation allow the engine owner sufficient maintenance and testing time, including meeting NFPA requirements, while providing public health benefits by reducing diesel PM emissions.

2. **Comment**: The California Ski Industry Association supports the proposed ATCM language that recognizes that emergency diesel power must be provided at our member's resorts when the electricity that is supplied by the grid cannot be relied upon for safe operation of our lifts and other equipment. (CSIA 1, CSIA 2)

Agency Response: In developing the ATCM, we discussed with the California Ski Industry the conditions when the electricity supplied by the grid cannot be relied upon for safe operation of lifts and other equipment, thereby constituting an emergency use. Under the definition for emergency use in subsection 93115(c)(25), the operation of an engine under the situation described by the commenter would constitute an emergency use when there is failure or loss of all or part of normal electrical power service or normal natural gas supply to the facility, which is caused by any reason other than the enforcement of a contract, and the failure is demonstrated to the district to be beyond the owner's reasonable control.

3. **Comment:** Ski resorts will be put out of business if their high-altitude diesel engines are banned or required to put on control technologies that are not technically feasible. We appreciate that the ATCM recognizes that diesel particulate control devices cannot be installed on in-use diesel-fueled engines equipped with selective catalytic reduction (SCR) controls. (CSIA 1, CSIA 2)

Agency Response: We disagree with the commenter. The commenter appears to be confusing the ATCM's requirements. The ATCM does not mandate the use of DPFs with SCR because of the technical complexities that are encountered when installing

both control technologies on an engine. However, it is erroneous to conclude that DPFs cannot be installed on an engine already outfitted with an SCR and that the ATCM reflects this. Indeed, the ATCM reflects these technical complexities and provides for district flexibility in determining whether a particular combination of technologies should be required as a condition for obtaining a district permit.

4. **Comment:** "Cleaire would like to encourage your Board to strengthen the requirement for backup generators, or BUGs, to meet the lowest applicable standard for particulate control. In previous workshops, your Board has heard testimony that very low particulate levels are not possible because of the intermittent levels are not possible because of the intermittent and low-load duty cycles experienced by back-up generators." We have developed an active regeneration system referred to as the "BUGtrap" that makes it feasible for BUGs to meet a 0.01 g/bhp-hr diesel PM standard. (CLEAIRE 1, CLEAIRE 2)

Agency Response: We disagree with the commenter's suggestion to lower the diesel PM standard to 0.01 g/bhp-hr for emergency standby engines (a.k.a. "BUGs"). As discussed in the Staff Report and in this FSOR, the requirements for emergency standby engines, or BUGs as the commenter refers to them, are sufficiently health protective and do not need not be strengthened at this time, except as directed by the Board for near-school engines. The operating requirements and emission limits defined in the ATCM were developed in an open and public process, taking into account a number of factors including ambient diesel PM levels, potential for near source risk, cost of controls, availability of technologically feasible controls, and the potential for reducing criteria pollutants such as NOx and hydrocarbons.

In general, the 0.01 g/bhp-hr diesel PM standard is only required for an emergency standby engine when that engine is located near a school, and it is used for non-emergency operations during school hours. The second situation that requires meeting 0.01 g/bhp-hr occurs when an engine is used for non-emergency operations for over 50 hours per year. For emergency standby engines that operate less than 50 hours per year and are located far from schools, a less stringent diesel PM standard is required to be met. The potential risk from engines in either situation does not justify the added expense that would be incurred by requiring installation of a 0.01 g/bhp-hr control technology like the BUGtrap.

5. **Comment:** Some districts may interpret the ATCM as requiring the hours required for testing an engine to show compliance with a district rule as counting against the maintenance and testing hours of operation limits defined in the ATCM. This is not the intent of the ATCM and needs to be clarified in the tables on pages A-14 and A-16 of the draft ATCM. Also the South Coast Air Quality Management District (SCAQMD) has indicated they may treat the limits on maintenance and testing hours identified in the ATCM as absolute limits that include the hours used for showing district-rule compliance. (SCE)

Agency Response: We disagree with the comment. The general intent of the ATCM process is to establish a uniform, statewide rule for regulating air toxic contaminants that the air districts must implement (H&SC 39666). However, the plain text of section 39666(d) shows that the Legislature clearly intended to authorize the air districts to adopt and implement equivalent or more stringent alternative air toxic regulations.

The commenter seems to be confusing the intent of the footnotes of Tables 1 and 2 in the regulation. In both tables, the footnotes clearly state that the exemption for compliance testing applies only to testing performed to show compliance with the ATCM requirements, not other district rules (e.g., district NOx rules). In addition, subsections (e)(2)(A)3.c. and (e)(2)(B)3.c. of the ATCM state that the District shall determine an appropriate limit on the number of hours for demonstrating compliance with other District rules. Thus, read together, these provisions establish no limits on testing conducted to show compliance with this ATCM. However, while subsections (e)(2)(A)3.c. and (e)(2)(B)3.c. can be read as permitting districts to count these hours toward the ATCM's overall limits on maintenance and testing, it does not require the districts to do so. It should be noted that the SCAQMD has already adopted Rule 1470, "Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines" (April 2, 2004), in which it included similar language. Rule 1470 states, "The District shall determine an appropriate limit on the number of hours of operation for demonstrating compliance with District rules…."

6. **Comment**: While the Air Issues and Regulations (AIR) Committee supports your concept of tiered emission standards for in-use engines, as outlined Section 2(B)(3) of the ATCM, our collective, long-term experience has shown that at a bare minimum 26 hours per year, or one-half hour per week, for testing and maintenance is necessary for some of our member agencies to ensure reliability of backup generation systems. We therefore request that key essential services be allowed the flexibility of operating 26 hours per year for testing and maintenance without retrofits. We agree that engines used more than 26 hours per year should be subject to the appropriate emission standards. (AIR 1)

Agency Response: We disagree with the commenter's assertion that engines operating 26 hours per year or less should not have to meet an emission standard. Based on our analysis as discussed in the Staff Report, we believe it is appropriate that the ATCM requires engines operating more than 20 hours and up to 30 hours per year for maintenance and testing to meet a diesel PM limit of 0.40 g/bhp-hr. We estimate a cancer risk of less than 10 in a million from engines operating within these parameters, based on our screening level risk analysis. Achieving these emission levels may require retrofits, depending on the emission levels of the in-use engine. However, many off-road certified engines manufactured after 1996 currently meet the 0.40 g/bhp-hr standard. And the tier structure and operating hour limits, summarized in Table 2 of the ATCM, should allow engine owners sufficient maintenance and testing time to ensure reliability, while providing public health benefits by reducing diesel PM.

C. Prime Engine Emission Limits

1. **Comment:** "Despite the general degree of alignment [with the federal nonroad engine standards], there are two areas of discrepancy that needs to be noted and addressed. First, under the proposed EPA 'Tier 4' nonroad engine program, the PM limit for engines in the 50-75 hp will be 0.22 g/bhp-hr dropping down to 0.02 g/bhp-hr, not a 0.01 g/bhp-hr as is proposed under the Stationary ATCM. Second, the draft ATCM will impose a 0.01 g/bhp-hr PM standard on "prime" (i.e. non-emergency) stationary engines above 750 horsepower. By contrast, the EPA Tier 4 rulemaking, which is expected to be finalized in April 2004, will likely establish a PM limit of 0.02 g/bhp-hr for such large engines (specifically those large nonroad engines used in power generation applications)." (EMA 1, EUR 1, EUR 2)

Agency Response: We disagree with the commenter's apparent implication that the emission standards in the ATCM were intended to align with the U.S. EPA's Tier 4 nonroad diesel engine standards. Because the ATCM was never intended to align with the federal nonroad standards, no modifications to the regulation were necessary to address what the commenter describes as discrepancies between the Tier 4 standards and the emission standards in the ATCM.

The purpose of the ATCM is to establish limits for stationary (not nonroad) engines that are based on the use of best available control technologies and lowest emitting diesel-fueled engines, with consideration of costs and the engines' contribution to overall ambient PM and risk levels. With this goal in mind, ARB staff proposed emission standards and operating requirements that represent BACT and are technologically feasible. As discussed in detail in the staff report, the technology is available to meet the proposed standards (see Staff Report, pp 7-8, 92-116, and Appendix F)

D. Harmonization with Portable Engine ATCM

1. **Comment:** The Portable Engine ATCM and the Stationary Engine ATCM emission requirements should be harmonized. Without harmonization of the standards and timeframes of these two ATCMs, engine owners may somehow "game" the system so that engines that are technically stationary are then counted as portable engines and thus not subject to the strict stationary prime engine standards in this ATCM. (Lake)

2. **Comment:** "Section (e) Requirements. Requires stationary engines to burn one of several acceptable fuels. One option is an alternative diesel fuel that **meets** the requirements of the Verification Procedures, another is a CARB Diesel Fuel used with fuel additives that **meets** the requirements of the Verification Procedures. This is significantly different than the proposed requirements for the Portable Engines where both the alternative diesel fuel and the fuel additives are required to have been verified through the Verification Procedures for In-Use Strategies to Control Emissions from Diesel Engines." [emphasis in the original] (BP)

Agency Response: We disagree with both comments. Harmonization of the portable and stationary emission requirements is not appropriate because these two types of engines are used differently. Because portable engines can be moved from location to location and are generally part of a larger fleet of portable engines owned by the same person, a fleet-wide approach to establishing emission standards was used in the portable engine ATCM. By contrast, stationary engines generally remain in one location. We therefore believe the optimum approach for stationary engines is to establish stringent operational requirements and emission applicable to each stationary engine. Although these approaches are fundamentally different, both result in the application of the best available control strategies, and the emission limits for both regulations are sufficient to protect public health.

We agree that, like any other regulation, the ATCMs should be drafted to minimize "gaming" of the regulations to the extent possible. To this end, the definitions for "portable engine" and "stationary engine" have been written to be nearly identical, thereby making it very unlikely that a truly stationary engine would be counted as a portable engine and vice versa.

With regard to the different fuel requirements, this again is the result of the fact that this ATCM addresses stationary diesel engines, while the portable engine ATCM addresses off-road mobile engines. Traditionally, the ARB has taken a different approach in developing the requirements for stationary sources because of the way the rules are implemented and enforced. Stationary source rules are implemented and enforced by the districts. In most cases, districts issue permits that define the enforceable requirements the owner of the stationary source has to meet. In the case of this ATCM, the owner has to show that the fuel he uses meets the requirements of the Verification procedure. The owner's easiest and least expensive option to achieve that is to use a verified fuel.

However, the ATCM also gives the owner the added flexibility of working with the district and providing the districts with information showing the verification requirements are met, i.e., emission test data, multi-media impact report, etc. This is consistent with the approach used in setting the emission standards. The ATCM does not require verified emission control equipment to be used, but using verified equipment is probably the easiest and least expensive way for an owner to show compliance with the ATCM. The owner could retrofit his engine with non-verified equipment and conduct his own testing to show compliance. By contrast, the districts' ability to enforce the emission standards portable engines is limited by the mobile nature of the equipment; therefore, requiring verification for fuel used in portable engines would provide the districts' with a better enforcement tool.

E. Exemptions and Delays in Implementation

1. **Comment:** "As weapon systems and platforms are modernized or replaced, current directive and instruction listings in (c)(8)(A), (c)(8)(B), (c)(8)(D) may not apply in the future. In addition, new directives and instructions are continually

being developed replacing outdated documents. The commenter requests that the language be modified into one uniform paragraph (c)(8) as follows:

"The requirements of subsections (e)(1), (e)(2)(C), and (e)(2)(D) do not apply to any stationary diesel-fueled CI engine used solely for the training and testing of U.S. Department of Defense (U.S. DoD) students or personnel of any U.S. military branch in the operation, maintenance, repair and rebuilding of engines when such training engines are required to be configured and designed similarly to their operational counterpart engines which are used by the U.S. DoD, U. S. military services or NATO forces in combat, combat support, combat service support, tactical or relief operations used on land or at sea." (NAVY)

2. Comment: The exemption language contained in (c) (8) should be consolidated and amended as follows: "(E) the training of United States Marine Corps (USMC) personnel, and is identified as a shore based training engine that must be made fully compatible with force systems and equipment both in configuration and design capability in order to fully support force training requirements and sustain operational readiness as dictated by the most current edition of any applicable Marine Corps orders." (USMC)

3. Comment:

A. The ATCM should include the following language as a subsection of section (c)(8).

"The training of the United States Army, Army National Guard, Army Reserve and State Military Department personnel, and are identified as land based trainers and equipment that must be made fully compatible with NATO Force requirements both in the configuration and design capability in order to fully support Army training requirements and sustain operational readiness, in accordance with DOD Directive 4140.25 dated April 20, 1999."

B. The ATCM should include the following language as a subsection of section (c).

"(17) All stationary diesel-fueled CI engines designated as exempt under the national security exemption, pursuant to 40 CFR PART 89, Sections 89.908, 89.1004, and tactical military equipment that is not covered by a national security exemption but for national security reasons, needs to be fueled on the same fuel as motor vehicles or nonroad equipment with a national security exemption such as to be ready for deployment overseas and pursuant to DOD Directives 4140.25 and 4140.25M." (CANG)

Agency Response: We agree with these comments, but rather than incorporating these specific military directives, we simplified the military training engine exemption. The modified language now exempts any stationary diesel-fueled used solely for the training and testing of United States Department of Defense (U.S. DoD) students or personnel of any U.S. military branch in the operation, maintenance, repair and

rebuilding of engines when such training engines are required to be configured and designed similarly to counterpart engines used by the U.S. DoD, U.S. military services or North Atlantic Treaty Organization (NATO) forces in combat, combat support, combat service support, tactical or relief operations used on land or at sea.

4. **Comment:** "I recommend you consider eliminating Section C (3) of the proposed ATCM and consider a phase-in schedule to replace prime in-use agricultural irrigation pump engines. Without concrete requirements in the ATCM, these engines may never be required to reduce emissions." (Moralez)

Agency Response: We disagree. As discussed in the Staff Report, we believe it is infeasible at this time to require retrofitting of controls on in-use agricultural engines for several reasons. First, bolt-on retrofit kits are not currently available for this application. Second, Health and Safety Code section 42310 exempted any equipment used in agricultural operations from the districts' permitting requirements until the recent passage of Chapter 479, Statutes of 2003 (SB 700, Florez). Because the ATCM relies on an effective permit system to ensure that controls are properly designed, installed, and operated, enforcement of an add-on control requirement for in-use agricultural engines would be difficult for the districts until a permit system for agricultural engines has been developed. Finally, requiring retrofits on in-use agricultural engines may make it less likely that these engines will be removed from service and replaced with clean electric power, which is currently occurring for a large number of engines under the Carl Moyer program. Therefore, we are not proposing at this time any performance standards or operating hour restrictions for in-use agricultural engines as part of the ATCM. For these engines, we are working with the agricultural community and other parties to identify how best to reduce PM and NOx emissions from stationary diesel engines used in agricultural activities. As part of this effort, staff will be following the development of retrofit controls that could be reliably installed and maintained on engines in agricultural uses. When we determine that technically feasible and cost-effective retrofit controls become available for in-use agricultural engines, we will propose amendments to the ATCM at that time.

5. **Comment:** The ATCM should be modified to specifically exempt diesel driven startup/shutdown engines used in Cogeneration facilities. The following additional exemption is proposed under section h(20): "The requirements in paragraph (c)(5) do not apply to any stationary diesel-fueled CI engine used solely for the safe startup or shutdown of gas turbine engines in Cogeneration facilities." (ConocoPhillips 1)

Agency Response: We agree with this comment and have added an exemption under subsection 93115 (c)(12) for engines used solely to start a combustion gas turbine engine.

6. **Comment:** Section (c)(17) should refer to all space shuttle flight facilities and not just landing sites (MD&AV).

Agency Response: We agree and have revised the regulatory language in subsection (c)(17) to include all manned space shuttle flight facilities.

7. Comment:

A. The ATCM should include the following exemption for remote located units:

"The requirements of this ATCM do not apply to Prime and Emergency Engines that are remotely located and meet the following conditions:

1. The engine(s) or engine block is located more than one (1) mile from any offsite receptor and more than 1 mile from any onsite home, school, day care center, nursing home, and/or hospital; and

2. The cumulative impacts of emissions from all such engines or engine blocks within a one-mile radius results in a prioritization score of less than 1, or a carcinogenic risk of less than one in one million and a Hazard Index of less than 0.1 for the MEIR or MEIW." (MD&AV)

B. If there is no delay in the compliance date for remotely located engines, then the ARB should provide an exemption or delay for infrastructure critical compression ignition engines that are unmanned in remote locations. (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

C. The ATCM should include the following language to delay the implementation of the ATCM for remote located units:

"The compliance date for in-use Prime and Emergency CI Engines that are remotely located and meet the following conditions is January 1, 2014 (or one year after the last date in subsections 'f' and 'g'):

1. The engine(s) or engine block is located more than one (1) mile from any offsite receptor and more than 1 mile from any onsite home, school, day care center, nursing home, and/or hospital; and
2. The cumulative impacts of emissions from all such engines or engine blocks within a one-mile radius results in a prioritization score of less than 1, or a carcinogenic risk of less than one in one million and a Hazard Index of less than 0.1 for the MEIR or MEIW." (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: We disagree with the commenters' suggestion that remotely located engines, as the commenters describe them, should be indefinitely exempted from the ATCM requirements. Despite their remoteness from receptors, remotely located engines nevertheless contribute to the overall ambient diesel PM burden. Furthermore, cost effective technology is available to reduce their emissions. These considerations notwithstanding, we believe there is merit in an implementation delay so that available resources can be applied in the near term to engines that are closer to

receptors. Therefore, we added a provision that grants districts the authority to delay implementation of the ATCM requirements for remotely located engines up to January 1, 2011. To qualify for this delay, an engine would have to be a prime engine located more than one mile from any receptor location and meet specified minimum risk-based criteria substantially similar to those suggested by the commenters. We believe this delay in implementation protects public health while focusing our implementation efforts in the near term on those engines where emission reductions will achieve the greatest benefits in the shortest amount of time.

8. **Comment:** The ATCM should include language that exempts mobile engines less than 200 horsepower from the definition of stationary engine, or exempt all mobile engines less than 200 horsepower with less than 500 hours per year of operation. (KJC 1)

Agency Response: We disagree. Subsection (c)(1) clearly exempts portable and mobile equipment. Therefore, it is not necessary to add additional language as the commenter suggests.

9. **Comment:** A comment was provided that indicated support of the continuation of the Interruptible Service Contract Program. (CITYTO)

Agency Response: We agree that it is appropriate to allow the operation of emergency standby engines in demand response programs, which includes the interruptible service contract program, provided they are only operated when blackouts are imminent or already occurring and that steps have been taken to curtail their emissions. As such, we modified the proposal to include provisions that allow for the operation of stationary diesel-fueled engines under an Interruptible Service Contract Program provided specified criteria are met.

10. **Comment:** The language in section (c)(11) should be revised such that all emergency standby engines at a nuclear power plant are automatically exempt from the provisions of the ATCM without input from the districts. (CEEB 2)

Agency Response: We agree and have modified the exemption for nuclear facility engines to become automatically operative without prior district approval. However, the ATCM retains the districts' ability to enforce its provisions, which include the authority to ensure that the criteria for applying the exemption are met by the nuclear facilities.

11. **Comment**: We have low-use cogeneration gas turbine engines that, for a variety of reasons, would need more than the 20 hours per year to operate that are permitted under the current exemption for low-use prime engines. The following exemption should be added to the ATCM: "In-use stationary diesel-fueled start-up engines which operate no more than 30 hours cumulatively per years [sic] and which are located beyond school boundaries shall be exempt from the provisions of subsection (e)(2)(D)(1)." (CHEV)

Agency Response: We agree in part and disagree in part. We agree that cogeneration gas turbine prime engines outside of school boundaries (i.e., beyond 500 feet) may, in some cases, require more than 20 hours per year of operation. However, the commenter's suggested language is overly broad and would increase the number of hours to qualify for the exemption (from 20 hours to 30 hours). This would significantly increase the number of engines that could qualify for this exemption. Therefore, we modified the language of exemption (c)(12), Request for Exemption for Low-Use Prime Engines Outside School Boundaries, as follows:

"The district APCO may use a different number of hours for applying this exemption if the diesel-fueled CI engine is used solely to start a combustion gas turbine engine, provided the number of hours used for this exemption is justified by the district, on a case-by-case basis, with consideration of factors including, at a minimum, the operational requirements of a facility using a combustion gas turbine engines and the impacts of the emissions from the engine at any receptor location."

In this case, the term "cogeneration gas turbine engine" was replaced with the more general "combustion gas turbine engine." In this way, we provide the districts with authority to use a number other than 20 hours for combustion gas turbine engines only, rather than for other classes of engines, if the alternate number is based on an adequate consideration by the districts of the specified factors.

F. Emergency Use

1. **Comment:** Section 93115(d)(23)(A-E) (Emergency Standby Engine) itemizes the uses of an emergency standby engine. We presume that if a certain function or activity is not listed under the definitions for an emergency standby engine then it is not allowed to be used for that purpose? (BP)

Agency Response: The commenter is correct. Subsection (d)(24)(A) through (E) (formerly (d)(23)(A) through (E)) identifies the specific uses and criteria that define an "emergency standby engine." If the engine is not used for the enumerated purposes and does not meet the specified criteria, it would not be considered an emergency standby engine. Because subsection (d)(51) defines a prime engine as any stationary compression-ignition engine that is not an emergency standby engine, any engine that does not meet the definition of an emergency standby engine would be considered a prime engine and would need to meet the requirements applicable to prime engines.

2. **Comment:** The commenter would like the definition of emergency use to include the underlined language:

"The pumping of water for fire suppression, protection, <u>facility fire training activities, or the pumping of water necessary for testing fire suppression systems as required either by the National Fire Protection Association, local fire departments, or facility procedures</u>." (ConocoPhillips1)

Agency Response: We disagree. Training and testing engines are, by definition, not emergencies, but are instead planned activities. Because such activities do not constitute emergencies or emergency use of stationary engines, these activities would be considered “Maintenance and Testing” for purposes of the ATCM.

3. **Comment:** "The definition of emergency use should be expanded to include operation of emergency engines due to low water pressure in the water distribution system in the event of a pipe break, high demand on the system due to use of fire hydrants, or breakdown of electric-powered pumping equipment. Therefore, we suggest adding the following to the definition of emergency use:

- the pumping of water to maintain pressure in the water distribution system
- due to breakdown of electronic-powered equipment necessary to provide essential public services." (DWPCLA 1)

Agency Response: We agree and have modified the ATCM to incorporate these suggestions.

4. **Comment**: Revise the definition of “Emergency Standby Engine” so as to eliminate confusion presented when engines are labeled during a district permitting process. (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: We agree and have modified the definition of “Emergency Standby Engine” so that it is clear “emergency standby engine” does not include prime engines. This should eliminate any confusion presented when engines are labeled during a district permitting process.

5. **Comment**: The commenter would like to classify their California generating stations as “Emergency Use” under the proposed ATCM. The current definition of “Emergency Use” contained in the ATCM refers only to “the failure or loss of all or part of the normal electrical power service or normal natural gas supply to the facility.” The definition continues along this line always assuming that the emergency power is generated to support a specific facility. SPPC requests an expansion of the definition to include language such as providing power to isolated communities when transmission limitations exist in the power grid system. (SPPC 1)

Agency Response: We disagree with the commenter’s suggested change because it is not needed to address the concern raised. Although the ATCM was written primarily for facilities that own and operate emergency standby engines onsite, the ATCM language allows off-site emergency standby engines to be operated during emergency use situations that occur at other facilities. Specifically, to address the commenter’s concerns, when transmission limitations exist in the grid, resulting in the failure of normal electrical power service to a facility, in whole or in part, the ATCM permits a Utility Distribution Company (UDC) such as SPPC to operate its emergency standby

engines to provide power to that facility. Under such circumstances, the hours of operation for the UDC's engines would be considered "Emergency Use" hours.

6. **Comment**: The commenter suggests that the definition of "Emergency Use" be expanded to include loss of normal electrical power service due to necessary maintenance of electrical breakers, and that such use of a generator would not count as hours of "Maintenance and Testing." (KJC 1, KJC 2)

Agency Response: We disagree. In order to protect public health and restrict the unlimited use of engines during emergencies, the ATCM defines "emergency use" to encompass only true emergencies. While the ATCM specifies criteria for defining an "emergency use," the criteria essentially reflect the hallmarks of true emergencies: events that are reasonably unforeseen and beyond the reasonable control of the operator. Because the loss of power to the facility is a planned loss that occurs annually to facilitate maintenance on the power distribution equipment to the facility, these hours are reasonably foreseeable and within the reasonable control of the operator. Therefore, the use of a generator to provide power during a planned maintenance of electrical breakers would not constitute true "emergency use" hours and would be appropriately categorized as "maintenance and testing" hours.

G. Fire Pump Engines

1. **Comment:** "The National Fire Protection Association (NFPA) requires emergency fire pumps to be tested 26 hours per year to ensure they will operate during emergencies. Since emergency water pumps are what keeps the water flowing to emergency fire pumps and fire hydrants, we request that CARB add an exemption to the ATCM to allow in-use emergency water pumps to operate up to 26 hours per year for maintenance and testing without having to comply with the ATCM requirements." (DWPCLA 1)

Agency Response: We disagree. We believe it is appropriate to allow direct-drive, in-use emergency fire-pump assemblies that are typically used to pressurize building sprinkler systems to operate for maintenance and testing purposes for the number of hours needed to comply with the NFPA 25 standard. However, we do not believe it is appropriate to extend this exemption to emergency water pumps for the following reasons.

To understand our rationale, it is important to first distinguish between these two types of engines. Direct-drive fire pumps are used at end user facilities to pressurize building sprinkler systems. As such, they are subject to fire protection and building codes. By contrast, emergency water pumps are those pumps that are used by the municipal water utilities to ensure that the water pressure they supply to end user facilities is maintained when the normal water pressure drops for some reason. Thus, emergency water pumps are located at the other end of the water supply line and are only indirectly linked to the pressurization of an end user facility's sprinkler system.

The 2001 California Building Code does not currently reference NFPA 25 as an explicit standard. Instead, Chapter 35 ("Uniform Building Code (UBC) Standard"), page 1-308, refers to NFPA 13 ("Standard for the Installation of Sprinkler Systems"), which in turn references NFPA 25. Despite this indirect reference to NFPA 25, direct-drive emergency fire pumps currently meet the NFPA 25 standard through mandatory compliance with the California Building Code. The Office of the State Fire Marshal (SFM) is adopting NFPA 25 in its update of title 19 of the California Code of Regulations as the standard for inspection, testing, and maintenance of water-based fire protection systems. When NFPA 25 is incorporated into title 19, it will become an explicit standard in the California Building Code.

NFPA 25 suggests that direct-drive fire pumps be operated 29-34 hours per year for maintenance and testing purposes. Based on the data gathered as part of this rulemaking, we believe that direct drive fire pumps are the least prevalent of all in-use fire pumps. Most are electric pumps, connected to the grid with a diesel engine generator as back-up. In addition, it is our understanding from discussions with stakeholders during the rulemaking that retrofitting direct-drive fire pumps with emission control systems may void their Underwriter's Laboratory (UL) certification, which could adversely affect their performance during a true emergency. Thus, we believe the impact to public health would be minimal if the ATCM permits the very limited number of direct-drive fire pumps to be operated 29-34 hours annually for maintenance and testing to show compliance with NFPA 25.

By contrast, there are numerous emergency water pumps used by the municipal water utilities. For example, the LADWP alone currently operates 42 diesel emergency water pumps. These engines are operated whenever there is a power loss or a loss of water pressure due to a fire or other emergency. These emergency water pumps are not directly required to meet NFPA 25 because they are not directly linked to the pressurization of a building's sprinkler system. Also**,** there are significantly more of these engines than direct-drive fire pumps. Allowing these numerous emergency water pumps to operate more than 20 hours per year uncontrolled during maintenance and testing would result in an adverse impact to public health and the environment that would be substantially greater than that resulting from the limited NFPA exemption for direct-drive fire pumps. Because of these reasons, we do not believe it is appropriate to extend the NFPA 25 exemption for direct-drive fire pumps to emergency water pumps.

2. **Comment**: The following language is recommended to revise the definition of "Emergency Use."

"(E) the pumping of water to maintain sufficient pressure and volume in the water distribution system:"
(ACWA 1, ACWA 2)

Agency Response: We agree it is necessary in some cases for the ATCM to recognize the pressurization of fire suppression systems as a legitimate emergency use.

However, the suggested modification is overly broad and would include situations that are not true emergencies. For example, if the water pressure is reduced at a facility because the company is holding an on-site picnic, we believe the use of a water pump engine to maintain water pressure in this or similar situations would not constitute a true emergency use. Therefore, we modified the definition of "emergency use" to include the pumping of water to maintain pressure in the water distribution system for any of the following reasons: 1. a pipe break that substantially reduces water pressure, 2. high demand on the water supply system due to high use of water for fire suppression, or 3. the breakdown of electric-powered pumping equipment at sewage treatment facilities or water delivery facilities.

H. Cost of Compliance and Cost Effectiveness

1. **Comment:** "…we believe that the costs for retrofit and replacement of in-use engines that are used for the economic impact analysis are lower than the actual costs." (AIR 1, EMA 1, FI 1)

Agency Response: We disagree. As discussed in the Staff Report, the cost estimates for retrofit and replacement of in-use engines used for the economic impact analysis are based on actual installations and represent an average in California. While a particular installation may cost more or less than this average, the estimated average cost remains unchanged, and we believe the costs used in our impacts analysis are representative of actual costs. The commenters provided no specific alternative cost information that would be representative of the actual costs to individual engines in California; therefore, we made no changes to our cost estimates.

2. **Comment:** The commenter states "the controlling of diesel internal combustion engines that are located downrange will do nothing to reduce Fort Irwin's community to exposure from these sources. Furthermore, Fort Irwin would have to incur the unnecessary cost associated with the installation of these traps or filters." The commenter suggests reinstating the exemption for remotely located engines (i.e., more than 1 mile from the nearest receptor) that was in the original draft of the ATCM. (FI 1)

Agency Response: We disagree. Diesel exhaust from stationary engines contributes both to local community exposure to diesel PM and to a region's ambient background diesel PM levels. Therefore, reducing diesel PM from all engines provides regional benefits and, if the engines are close to receptors, to local communities. In the case of Fort Irwin, the reduction of diesel PM from these downrange engines benefits not only the regional levels of ambient diesel PM, but also the local military personnel who practice in the surrounding range, if not the Fort Irwin community itself. While retrofitting or replacing in-use prime engines is cost effective throughout California, we recognize that the remoteness of the Fort Irwin engines justifies a delay in the implementation of the engine requirements so that resources can be better focused in the short term on those engines with more immediate impacts to local communities. Therefore, we

reinstated a remotely located engine provision that permits districts to delay implementation of the requirements for engines that meet the specified criteria. The delay in implementation will also provide Fort Irwin and other owners of affected remotely located engines with a longer time period for implementing the requirements, which should lower the overall costs for these engines.

3. **Comment:** "The requirement that the stationary source reference method use the same averaging of multi-mode operation to determine compliance adds significantly to the cost of testing. Four modes with triplicate tests for each mode would be 12 individual particulate tests, taking anywhere from an hour for older, dirtier engines, to three hours or more for highly controlled engines. Not only would this be costly from the testing perspective, but may not be practical for the operation of the engine to provide the power at the facility where it is being used. It would seem to be in the interest of clean air to run the engines that don't normally run for many hours during the year, or at high loads, as short as possible. …" (SCAQMD 1)

Agency Response: We agree that it would not be in the public's best interest to operate engines for numerous hours to conduct emissions testing when the engine typically does not run for many hours during the year. However, we anticipate that the majority of the engines subject to the ATCM will not need to be source tested. The ATCM specifies several types of information that can be submitted to the APCO to show compliance, including engine manufacturer's data, emission test data from similar engines, the use of verified equipment, and certification data. To the extent these data are available, source testing will not be required and the commenter's concern is moot for those engines. However, in cases where no applicable emissions rate data exist, emission testing the engine may be necessary. To minimize the hours of operation during emission testing, the owner can choose ISO 8178-1, which can be conducted in about 10 hours. Also, in light of the concerns raised regarding emission testing, ARB staff is continuing research to develop a simpler, less costly in-use compliance test method.

4. **Comment:** The ATCM will increase the Los Angeles Department of Water and Power's (LADWP) cost to provide essential public services (water and electric) to the public by requiring retrofit and/or replacement of a significant portion of LADWP's emergency back-up engines to comply with the ATCM requirements. The ATCM assumes most engines will meet the emission requirements by reducing hours, this is not an option for 50% of the LADWP's engines. Many of the engines are required to run greater than 20 hours per year for maintenance and testing, and will require costly retrofit and/or replacement. (DWPCLA 1)

Agency Response: We agree that compliance with the ATCM will result in a cost impact to those owners that retrofit or replace their engines. Staff assumed the vast majority of owners of emergency standby engines would take the easiest and least costly approach toward compliance, which is the reduction of maintenance and testing hours to below 20 hours per year. We understand that some owners may desire to run

their engines more than 20 hours per year. For these engines, the ATCM requires that specified emission standards be met, which vary depending on the number of hours of non-emergency use for the engine. For those engines that are not already complying with the emission standards, retrofitting or replacing the engines are two options. The costs associated with these two options are site specific. Our analysis shows that for a typical emergency standby engine these costs can be expected to range from $600 to $4000 per year (annualized cost).

5. **Comment:** Essential public services such as LADWP will be subject to multiple diesel ATCM regulations (Stationary Diesel Engine ATCM, Portable Diesel Engine ATCM, and the Heavy-Duty Diesel Vehicle ATCM) which have overlapping compliance timelines; therefore, the economic impact of the diesel ATCM's will be cumulative. CARB should evaluate the cost impacts from the Diesel Risk Reduction Plan in its entirety, instead of taking the approach of evaluating each ATCM individually." (DWCLA 1)

Agency Response: We disagree. Cumulative impacts analyses, as suggested by the commenter, is not currently performed at the Board, nor at any of our sister agencies under the California Environmental Protection Agency (Cal/EPA). Instead, the cost impacts of each rule adopted by the Board is evaluated on a rule-by-rule basis. This practice conforms with well-established procedures for conducting cost impacts analyses and used by the ARB and other agencies under Cal/EPA. This methodology also meets all of the economic analysis requirements specified in the Administrative Procedure Act.

In addition, conducting a cumulative cost analysis for this ATCM, in the absence of other necessary steps, will provide little useful information. This is because a major reason for conducting a cost-effectiveness analysis is to be able to compare the impacts from a proposed regulation with prior regulations on an “apples-to-apples” basis. And because prior analyses did not consider cumulative impacts from preceding regulations, conducting a cumulative impacts analysis for one regulation without doing so for other regulations would result in an “apples-to-oranges” comparison.

Leaving aside the question of whether to conduct a cumulative impacts analysis, we would like to address the implied suggestion that a cumulative impacts analysis might somehow show that we should not regulate multiple sources of diesel PM simultaneously because of the costs. As discussed in the Staff Report, the potential cancer risk and non-cancer health impacts from uncontrolled diesel vehicles and engines operating in California are unacceptably high. Diesel PM is estimated to be responsible for about 70 percent of the total ambient air toxics risk in California. Exposure to diesel PM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. If we are ever to reduce the risk from Diesel PM emissions as our state continues its rapid population and industrial growth, we must look at every possible action for reducing emissions.

The Diesel Risk Reduction Plan (Plan), adopted by the Board in 2000, represents the Board's proposal for a comprehensive plan to significantly reduce diesel PM emissions. The basic premise behind the Plan is to require all new diesel-fueled vehicles and engines to use state-of the-art catalyzed diesel particulate filters (DPFs) and very low-sulfur fuel. Further, all existing vehicles and engines should be evaluated, and wherever technically feasible and cost-effective, retrofitted with DPFs. To that end, the Board recently adopted this ATCM and other regulations addressing waste collection trucks, a fleet rule for transit agencies, school bus idling restrictions, transportation refrigeration units, and portable engines. Additional rules being developed, but not yet adopted, include idling restrictions for on-road diesel trucks and requirements for existing stationary agricultural engines, publicly-owned and privately-owned equipment and vehicles, and marine vessels.

Thus, even if we were able to conduct a cumulative impacts analysis and such an analysis were to provide meaningful results, the substantial health impacts of uncontrolled diesel PM would justify all reasonable measures to regulate diesel PM sources to the extent that is technologically feasible.

I. Test Methods

1. **Comment**: MECA believes the best approach for demonstrating compliance using emission control technology such as the DPF should be through the ARB verification process. Further, we recommend that a company seeking verification for its products should be able to demonstrate, through an engineering analysis, that its technology is applicable to a broad range of engine applications. We believe that source testing for verified products should be minimized and that, if a source test is used, we believe ISO 8178 or the 5-mode version of that procedure is the better test for this category of engines. In this regard, there is an inconsistency in the proposed rule because the engine manufacturer can demonstrate compliance using a full dilution method in a controlled environment, but the DPF manufacturer may be required to use a less accurate measurement technique to verify performance of the DPF. (MECA 1, MECA 2)

Agency Response: It is unclear what the commenter is suggesting. If the commenter is suggesting that ISO 8178 or the 5-mode version of that procedure is appropriate for testing engines, we agree. However, we made no modifications to the regulation because the option to use ISO 8178, as well as two other specified test methods, is already available in the regulation and has been throughout the formal rulemaking process. In addition, the districts can approve other test methods as alternatives to the three specified methods, provided the districts can show the alternative methods are equivalent to the three specified ones.

2. **Comment**: We request that the board revisit, if appropriate, the issues associated with field measurement of PM from stationary engines after the ARB staff and interested stakeholders have had the opportunity to continue the dialogue related

to measurement issues. (MECA 1, MECA 2, CAPCOA 1, AVAQMD 1, AVAQMD 3, MDAQMD, SCAQMD 2)

Agency Response: We agree. In Resolution 03-30, by which the Board approved adoption of the ATCM, the Board directed staff to evaluate the in-use experiences with the test methods specified in the ATCM. We will revisit the test method provisions and make appropriate amendments in the future as necessary.

3. **Comment**: EMA and MECA believe that what is defined as particulate mass by Method 5 bears little relationship to particles found in diluted engine exhaust under atmospheric dilution conditions. Dilution sampling methods like those described in CFR 40 Part 89 and ISO 8178-1 give much better approximations of the particle mass formed under real-world dilution conditions. EMA believe that dilution based sampling methods, like those used for all mobile source certifications give a much more accurate measurement of the ambient mass loading and environmental impact of engine exhaust particles that does Method 5. The use of dilution methods for stationary engine source sampling will lead to more accurate representation of ambient emissions and better emission inventory estimates. It will also allow more harmonization of mobile and stationary source sampling methods. (EMA 2, MECA 1, MECA 2)

Agency Response: We agree and have written the regulation to provide the test method flexibility for engine owners, operators, and manufacturers. In order to provide flexibility with existing stationary source district compliance rules, verification programs and certification programs, diesel PM testing can be done in accordance with three specified test methods. ARB staff believes that allowing the three methods provides sufficient flexibility to harmonize with existing programs. ISO 8178 and Title 13, CCR section 2423 are allowed to harmonize with existing verification and certification programs. CARB Method 5's front-half component is allowed to harmonize with existing district rules. Because of this, we believe that using these filter-based PM test methods to demonstrate compliance with diesel PM limits is consistent with the methodologies used in identifying diesel PM as a toxic air contaminant.

4. **Comment**: We believe that everyone involved with the ATCM understands that any modification to the stationary source reference method applies only for the purpose of this ATCM and affects no other particulate matter standards. And, it is important that this be emphasized in the final promulgation of the ATCM should the test methods remain unchanged. However, regardless of any caveats presented, this will be looked upon as precedent setting and perhaps will be used as one more piece of information to reduce the stringency of particulate matter controls in future rulemaking. (SCAQMD 1)

Agency Response: We agree and have drafted the regulation to clearly state that, for purposes of complying with this ATCM only, the diesel PM measured using CARB Method 5 shall be measured only by the probe catch and filter catch (i.e., the filterable

front-half) and shall not include the PM captured in the impinger catch or solvent extract (i.e., the condensable back-half).

5. **Comment**: There is very limited data on the composition of the organic fraction of the condensable portion. The tests conducted by CE-CERT provide some insights into composition for a limited number and types of engines. The toxicity of the condensable organics also has not been well investigated separate from the entirety of the diesel exhaust, including particulate matter. (SCAQMD 1)

Agency Response: We agree that the toxicity of the condensable organic back-half portion of CARB Method 5 is very limited. However, we believe that utilizing the filterable front-half component is consistent with the methodologies that were used in identifying diesel PM as a surrogate for exposure to whole diesel exhaust. Because the commenter made no suggested changes to the regulation, no modifications to the regulation were necessary.

6. **Comment**: Health risk factors developed from filterable particulate matter for occupational settings were used as a surrogate for the total diesel exhaust, including condensable and volatile organics. If a shift in magnitude of toxicity contribution from condensable become greater compared to filterables, i.e. toxicity does not reduce linearly with filterable PM, then we may be ignoring an important contributing factor. Inorganics in the condensable fraction also contribute to health impacts (PM precursors) and should not be totally ignored. (SCAQMD 1)

Agency Response: We disagree. The commenter has provided no data to support its speculation that the ATCM's specified test methods are missing the toxicity contribution from the condensables. In absence of such data, we continue to believe that using the front half (filterable component + probe wash) as a measure of diesel PM is consistent with the methodologies that were used to establish diesel PM as a TAC and identify diesel PM as a surrogate for exposure to whole diesel exhaust.

7. **Comment**: There could also be an issue with newer vs. older diesel engines, and controlled vs. uncontrolled diesel engines. The organic fraction appears to be greater percentage of mass based on limited testing. The toxic character of the semi-volatile organics may change with cleaner burning engines producing fewer carbon particles to scavenge semi-volatile organics compared to older, "dirtier" burning engines. (SCAQMD 1)

Agency Response: We disagree. We believe that there is insufficient data to establish trends in the toxicity of the CARB Method 5 impinger organic component as a function of engine age. While the test method study we conducted did indicate that the all the components of the CARB Method 5 PM are decreasing with newer engines, it also showed that the filterable PM component tended to decrease more than the impinger components. Moreover, studies noted in the Staff Report have indicated that a portion of the impinger catch may be artifact formation from organic and inorganic species interaction with the water in the impinger to form particulate that would not form

under typical source level atmospheric conditions. Based on these reasons, we believe that no modifications to CARB Method 5 are necessary at this time. As noted elsewhere in this FSOR, we continue to believe that using the front half filterable component as a measure of diesel PM is consistent with the methodologies that were used to identify diesel PM as a surrogate for exposure to the whole diesel exhaust (including particulate, semi-volatile organics, volatile organics and inorganic substances).

8. **Comment**: An industry representative on the working group thinks that we should consider deleting the contribution from the heated sample probe and this is something that must not be considered. Any mass, soluble, insoluble, organic or inorganic, that is collected upstream of the heated filter must be counted as particulate matter, since material that condenses at probe temperatures that are significantly higher than the downstream filter temperature, are highly likely to condense on the filter or in the filter holder. (SCAQMD 1)

Agency Response: We agree that any mass collected upstream of the filter should be included as particulate matter. When CARB Method 5 is used to determine diesel PM emissions, both the probe catch and the filter catch are required to be included.

9. **Comment**: The proposed ATCM specifies the use of the mobile, offroad source reference method (ISO-8178) or a modification of the stationary source reference method (ARB Method 5) for particulate emissions. The modification of CARB method 5 is to include the "front half" component, which consists of the sample caught in the heated sample probe upstream of the filter and on the heated particulate filter. The "back half" component, which consists of the organic and inorganic components caught downstream of the heated filter in water-filled impingers that are immersed in an ice water bath, are excluded. CAPCOA strongly recommends that ARB emphasize that the exclusion of the back half condensables of Method 5 is

- only for the purposes of determining compliance with the ATCM and should not be extrapolated to other rulemaking or regulatory programs for control of PM from stationary sources
- to provide continuity between the mobile source reference method (which is typically used for certification) and the ATCM method, and
- to maintain consistency with historical health studies that used filterable particulate material as a surrogate for personal exposure to total diesel exhaust (including particulate, semi-volatile organics, volatile organics and inorganic substances). (CAPCOA 1, AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree that excluding the condensable back half (impinger organic catch, labeled as impinger catch extract, and impinger inorganic catch, labeled as impinger catch) when using CARB Method 5 is solely for purposes of complying with this ATCM. The back half component was excluded in the regulation to provide consistency with filter based PM methods used in verification and certification programs.

We believe that this approach is consistent with the methodologies that were used in identifying diesel PM as a surrogate for exposure to whole diesel exhaust.

10. **Comment**: CAPCOA recommends that ARB further study the organic fraction of the CARB Method 5 back half component to assess their potential contribution to ambient levels of diesel PM and whether those emissions may pose a significant risk to the public. The study should be completed within two years of the rule adoption and include the following components:

- Quantification of the mass of the organics fraction
- Assessment of the potential contribution of the condensable fraction to the ambient PM after dilution and cooling to ambient temperature.
- Speciation of the condensable organic fraction
- Determination of how the contributions to ambient PM from the condensable organic fraction may change going from older to newer engines, and from uncontrolled to PM controlled engines (i.e. higher PM to lower PM emission levels). (CAPCOA 1, CAPCOA 2, AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3, SCAQMD 1)

Agency Response: We agree that further evaluation of compliance and in-use test methods are necessary. In Resolution 03-30, the Board directed staff to evaluate the in-use experiences with the test methods specified in the ATCM.

J. Enforcement

1. **Comment:** Several environmental groups urged the Board to provide additional direction to the air districts for strong enforcement programs. "The proposed tiered system of regulation based on operating hours is dependent on a strong oversight and enforcement program. Without strong enforcement, there is no way to ensure that operators are not understating operating hours and avoiding required retrofits. Given the ongoing concern about limited resources at air districts, and the extra workload required to oversee thousands of engines that are newly regulated, we are concerned about air district ability to conduct adequate enforcement. We strongly recommend that the Board propose new mechanisms for air districts to fund enforcement activities related to stationary engines. For example, the districts could propose new fees for oversight of stationary engines and/or elevated penalties for violation of operating hour requirements in order to raise necessary oversight and enforcement funds." (ENVIR 4, ALAC 1, ALAC 2)

Agency Response: We agree. Resolution 03-30 directs the Executive Officer to provide assistance to the districts in implementing and enforcing the ATCM. Some districts may see it necessary to adopt new mechanisms to fund enforcement activities (i.e. new or elevated fines for violations, new fees). To that end, the ARB staff will work with District staff, as necessary, to determine the best way to assist Districts in the enforcement of the requirements of the ATCM. In addition, Resolution 03-30 also

directs the ARB staff to monitor the implementation of the ATCM. This includes monitoring and auditing the effectiveness of district enforcement programs. If ARB determines that enforcement is not adequate, recommendations as how to improve enforcement will be provided to the districts.

K. Reporting and Monitoring Equipment Requirements

1. **Comment**: The implementation of this proposed ATCM might result in the submittal of hundreds of permit applications to modify existing permits. We recommend that the proposed ATCM require that the extensive reporting data included in (e)(4)(A)(iii)(3) be submitted at the time a permit application is submitted instead of July 1, 2005 as currently proposed in (e)(4)(A)(ii2). This would help mitigate the additional resources needed to implement the ATCM. (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We disagree. The referenced section identified in the comment, (e)(4)(A)(iii)(3), has been renumbered as (e)(4)(A)3. Subsection (e)((4)(A)3. identifies the information that each owner or operator of a stationary CI engine is required to submit to the appropriate District APCO. The purpose of requesting this information is to build an accurate, up-to-date inventory of stationary CI engines currently operating in California. This information will also serve as the basis for the update of AB 2588 "Hot Spots" facility emission inventories. It is critical for the timely implementation of the AB 2588 program that this information be submitted to each District by no later than July 1, 2005. For that reason, we believe it would be inappropriate to make the suggested change in the reporting date.

2. **Comment**: In addition to the physical address of the engines as required by §93115 (e)(4)(A)3.a.III. the UTM Coordinates to within 100 meters is needed (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree that the Universal Transverse Mercator (UTM) would be useful when assessing the impact of a stationary diesel engine's exhaust on receptor locations. However, it is not absolutely necessary to implement the ATCM. Also, the districts can, if they desire UTM data, obtain UTM data from readily available sources (e.g., the ARB's Hotspots Analysis Reporting Program or "HARP") and correlate them to specific locations. Finally, the districts have the option under Health and Safety Code 39666(d) to adopt and enforce their own equivalent or more stringent versions of the ATCM, including versions with a requirement for UTM data submittal.

3. **Comment**: In order to properly perform dispersion modeling of the emissions §93115(e)(4)(A)3.b. needs to be amended to require the following additional information:

"Diameter of stack at outlet
Direction of outlet, is it vertical or horizontal
Is end of stack open or capped (weather cap)

Temperature of exhaust gas
Exhaust gas flow rate (ACFM).” (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree with the commenter that the information requested is important for properly performing dispersion modeling. However, we made all but one of the suggested changes. We amended the list of data requirements specified in emissions §93115(e)(4)(A)3.b. to include diameter of stack outlet, direction of outlet(horizontal or vertical), and end of stack(open or capped). But we did not add requirements for determining temperature of exhaust gas or exhaust flow rate, as most owners cannot easily ascertain this. We believe that district staff are best suited for installing temperature and flow measuring devices correctly, to ensure the readings are accurate and useful. Alternatively, the exhaust gas flow rate can be obtained from initial compliance testing, source testing, manufacturers’ data, and other sources. Therefore, if a district determines that such data are critical to its dispersion modeling, and it cannot obtain the information except from direct measurement, the district has the authority under Health and Safety Code 39666(d) to adopt and implement its own equivalent or more stringent version of the ATCM with a requirement for exhaust gas flow rate data.

4. **Comment:** The emissions factors that are required by §93115(e)(4)(A)3.b.VIII should be provided in pounds of pollutant per 1,000 gallons of fuel used and in grams per bhp-hr. (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree that emission factors expressed in pounds of pollutant per 1,000 gallons of fuel used and in grams per bhp-hr would be useful when assessing the impact of a stationary diesel engine’s exhaust on receptor locations. However, we do not believe it is absolutely necessary to express the terms of the emission factors in the manner suggested. Because emission factors for stationary engines are typically expressed in units of mass (e.g., grams) of pollutant per unit of fuel used (e.g., liters), the conversion to the suggested form should be readily available with the use of appropriate, publicly available conversion factors (e.g., metric to English conversions). Moreover, once the total emissions are calculated for a given period of time, the calculation to determine grams per bhp-hr should be readily available by taking the grams per hr and dividing it by the rated brake horsepower of the engine, which is one of the engine-specific data that are required to be reported under the ATCM. Such information can also be obtained from the district permit, manufacturers’ literature, source tests, and other sources of data. We will work with the districts in identifying existing tools that can be used to convert emission factors from grams per bhp-hr to pounds of pollutant per 1,000 gallons of fuel used, and vice-versa.

5. **Comment**: The distance to the nearest receptor as required by §93115(e)(4)(A)3.e. should be in feet or meters. Also, needed is the receptor type and distance to the nearest school. (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree and have amended the ATCM language to reflect the suggested changes.

6. **Comment**: The reports from the sellers that are required by §93115(e)(4)(B)1 and (C)1. should be provided by January 31, 2006 and each January 31st of each year thereafter. The reporting period should be the previous calendar year (January 1 through December 31). (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree and have amended the ATCM language to reflect the suggested changes.

7. **Comment**: The record retention requirements of §93115(e)(4)(H) and (I) should be extended to 5 years (60 months) to match with the requirements of the federal Maximum Achievable Control Technology (MACT) Standards. (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We disagree. In defining the minimum number of months an owner is required to retain records, we considered both the resource impact on owners, the estimated frequency of district inspections, and the requirements of the ATCM which sets annual hours of operation limits and requires monthly tallies be kept on hours the engine was used with a description of why the engine was operated (e.g. emergency operation, maintenance and testing). Based on these reasons, we believe 36 months of records should be sufficient to provide districts with enough information to determine compliance, and if necessary, calculate fines. If an owner's engine is also subject to the federal MACT standard, the federal requirement to maintain records 5 years (60 months) would apply in addition to the ATCM requirement. We believe it is unnecessary to make this a requirement for all engines because the MACT standard as promulgated would only apply to the relatively few prime engines that are over 500 hp and located at major industrial sources of air toxics.

8. **Comment:** Many existing engines already have APCD-approved non-resettable hour meters installed that may or may not meet the four digit requirement identified in subsection (e) (2). Because APCDs are tasked to enforce this regulation, it appears reasonable that these APCDs decide the appropriateness of the non-resettable hour meter rather than requiring the replacement of existing non-resettable hour meters with new non-resettable hour meters (VAFB).

Agency Response: We agree and have amended the ATCM language to give each District the authority to determine on a case-by-case basis the appropriateness of keeping the existing hour meter.

9. **Comment:** The heading of subsection (e)(4)(H) should read "Reporting Provisions for Exempted Prime and Emergency Engines" as it pertains to both prime and emergency engines. (CHEV)

Agency Response: We agree. Unfortunately, the suggested correction was not made due to an oversight. As this is a non-substantive change, we will the appropriate

modification to the heading when the final regulation order is forwarded to the Office of Administrative Law for its approval.

10. Comment: Subsection (e)(4)(H) requires a monthly log of operating hours for exempted engines. Monthly reading of the hour meters is unnecessary. Quarterly reading is more reasonable given the fact that the limits on operating hours are per year, and the hour meters have a minimum display capability of 9,999 hours. (CHEV)

Agency Response: We disagree. We believe monthly readings are more appropriate than quarterly readings because they give the districts the capability of becoming aware of violations that occur within a quarter, rather than waiting until the end of a year to find violations.

11. Comment: The term “monthly log” in subsection (e)(4)(I)(1) required for emergency standby engines is misleading when the log requires hours for emergency use, hours for maintenance and testing, hours for emission testing, hours of initial startup, and hours for other uses. The only way to track the hours of different uses is by recording the start and stop readings each time the engine is operated, and not by reading the hour meter once a month. The word “monthly” should be deleted. (CHEV)

Agency Response: We disagree. Our intent is to make the owner track the hours of different uses by recording the start and stop readings each time the engine is operated. This data would be recorded in a logbook that would provide a month-to-month summary of the data collected during previous months and an up-to-date accounting of the engine usage data for the current month. Because of this, we do not believe “monthly" should be deleted.

L. Compliance

1. Comment:

A. "If retrofit of emergency engines is not feasible and replacement is required to comply, the new regulation should allow for a customized compliance plan (and extended compliance deadlines) to avoid significant impacts to operations due to the logistics involved in replacing emergency back-up equipment." (DWPCLA 1)

B. The commenter suggests that an exemption be added to the ATCM that would allow an extension of the compliance deadline if a verified diesel emission control strategy is not available for a particular engine, or if the engine's situation will not allow a diesel emission control device to be installed. (DWPCLA 1)

Agency Response: We disagree and do not believe it is necessary to allow for customized compliance plans or compliance deadline extensions as suggested.

Although we anticipate that most owners of emergency standby engines will comply with the ATCM by reducing their hours of maintenance and testing operations, we also recognized that some engine owners and operators may have to replace or retrofit their engines in order to comply with the emission standards. However, the ATCM does not require the use of verified emission control strategies to meet the emission standards. Rather, the ATCM requires that the owner seeking to meet an emissions standard provide the district with emissions test data that shows the engine is compliant as-is, after retrofit, or after replacement.

The ATCM establishes two compliance schedules that will be applicable to owners of emergency standby engines. One schedule applies to owners of three or fewer engines located within a district. The second applies to owners of four or more engines within a district. For owners of three or fewer, the earliest compliance date (January 1, 2006) is for owners of pre-1989 through 1989 model year engines.

For owners of four or more engines, the compliance dates are phased-in over time, with only a percentage of the total number of engines required to be in compliance by the first compliance date. The earliest compliance date for owners of four or more engines is January 1, 2007. By that time, 50% of the pre-1989 through 1989 model year engines and 30% of the 1990 through 1995 model year engines are required to be in compliance.

We believe these compliance dates provide a reasonable amount of time to comply with the requirements of the ATCM. However, should more time be needed, the owner can petition the district for a variance on a case-by-case basis, as provided under State law.

2. **Comment:** 'The compliance schedules in §§ 93115 (f) and (g) should start 36 months after the "Effective Date" of this ATCM. Per Health and Safety Code § 39666 (d) the "Effective Date of an ATCM is 120 days after the Office of Administrative Law (OAL) approves the ATCM. Therefore, the all January 1, 2005 dates should be moved to 24 months after the "Effective Date" and July 1, 2005 dates should be moved to 30 months after the "Effective Date." Furthermore all other dates within this ATCM should be adjusted accordingly.' (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We disagree. It is not necessary to adjust the compliance dates in the ATCM. Once the regulation is approved by OAL, the districts will have 120 days to either implement and enforce the ATCM or propose an equivalent or more stringent version. We anticipate submitting the ATCM to OAL for their approval in September 2004. This should provide ample time for OAL to approve the regulation before the 2005 deadlines become effective. Also, state law permits the districts to implement and enforce the ATCM earlier than this timeframe if the districts so desire (see Health and Safety Code section 39666(d)).

M. Demand Response Programs

1. **Comment:** The requirement that the District approve of disapprove the RBRP environmental dispatch protocol within 30 days is unreasonably short and potentially does not allow the District enough time to evaluate the protocol and determine the most environmentally beneficial and health protective dispatch scenario. The District recommends at least 180 days after receipt of a complete protocol (i.e., all necessary information to complete the evaluation has been provided) to approve or disapprove the protocol. (SDCAPCD 3)

Agency Response: We disagree. We believe 30 days should be sufficient for the district to review the RBRP environmental dispatch protocol. However, we also recognize that additional time for review may be needed for a variety of unexpected reasons, including changes in district workload. Therefore, we have modified the ATCM to require district approval or disapproval of the RBRP protocol within 30 days or within a time period mutually agreed to by the parties.

2. **Comment:** We would like to request that the Board extend the January 1, 2005 compliance deadlines for in-use interruptible service contract (ISC) engines to July 1, 2005 because of the delay incurred in adopting the ATCM from its original hearing date of November 20, 2003 to when it was finally adopted on February 26, 2004. (EMWD 1)

Agency Response: We agree that owners of engines enrolled in ISCs prior to January 1, 2005, need more time to comply because of the delays in the rulemaking pursuant to Executive Order S-2-03. As a result, we modified the compliance dates for these engines to January 1, 2006.

3. **Comment:** The LVMWD opposes the proposal to reduce or eliminate Interruptible Service Contract (ISCs) such as the I-6 rate incentives. The LVMWD relies on the I-6 rate incentives to offset costs for maintaining and improving its facilities, which reduce diesel PM emissions and improve air quality. The financial incentive is a financial resource that LVMWD uses to offset its costs to send all its treated water back upstream for use as recycled water during the months of April 15 through November 15 each year. The elimination of the I-6 contracts would increase its current energy bill from $1.1 million by $300,000 (or 28%). To a small district such as ours, the I-6 rate incentive is a needed and valuable asset. (LVMWD 1)

4. **Comment:** The Metropolitan Water District of Southern California, Southern California Alliance of Publicly Owned Treatment Works, Las Virgenes Municipal Water District and City of Thousand Oaks support the proposed ATCM with the inclusion of provisions to participate in Interruptible Service Contracts, Demand Response Programs or Interruptible Rate Programs. (MWDSC 2, SCAP 4, LVMWD 2, MWDSC 1, CITYTO)

Agency Response: We agree. At the Board's direction, we added new language to the ATCM that would allow the continued use of emergency standby engines in two

demand response programs (i.e., ISCs and RBRP) under specified conditions. Stationary engines in these programs will be required to meet stringent emission limits and limited hours of operation, as well as all other requirements in the ATCM. In addition, the San Diego Gas and Electric Company will be required to develop an environmental dispatch protocol for its RBRP engines that is approved by the local air district and that identifies how these engines will be dispatched to minimize public health impacts.

5. **Comment:** District staff recommends defining ISC, RBRP, SDGE Service Area, and "out of service." These additions allow for other special areas to be added. The RBRP sections need to be after the ISC sections. (MD&AV)

Agency Response: We agree in part. As suggested, we added definitions for "ISC" and "RBRP" in subsection (d)(36) and (d)(54), respectively. However, we determined that the terms "SDGE Service Area" and "out of service" are not necessary to ensure the ATCM's clarity or enforceability.

6. **Comment:** The SDAPCD reiterates that current District policies pertaining to use of backup generators in Stage 3 electrical emergencies and imminent blackouts are consistent with the proposed ATCM for stationary diesel-fueled CI engines. The proposed ATCM also includes provisions that substantially reinforce the environmental aspects and eliminate the potential for abuse of the PUC-approved use of emergency backup generators in a Rolling Blackout Reduction Program (RBRP). District staff agrees with the ARB that the use of the RBRP should be reassessed periodically to ensure the program does not become a substitute for future additions of cleaner generating sources and/or transmission system capacity. (SDAPCD 1, SDAPCD 2)

Agency Response: No modifications are necessary.

7. **Comment:** CAPCOA is unable to comment on supplemental proposals released after November 14, 2003, specifically including new provisions relating to engines in "demand reduction programs" or other similar programs. We strongly urge the Board to refrain from any action on any such proposals until the public has had a full opportunity to review and comment on them. (CAPCOA 1, CAPCOA 2)

Agency Response: The modifications relating to demand response programs were made available for public comment and review during two supplemental 15-day comment periods as required by the California Administrative Procedure Act and as discussed earlier in this FSOR. The commenter provided no additional comments on the demand response provisions during the supplemental comment periods.

8. Comment:

A. The ALAC opposes the use of backup generators in the interruptible programs.(ALAC 1, ALAC 2, ALAC 3)

B. We believe it is ill advised to allow any diesel-fueled backup generators (BUGs) to participate in ISCs and contrary to state air quality and public health goals. BUGs are the most polluting form of stationary power and should not be allowed to run as mini-peaker plants. (ENVIR 4)

C. We strongly urge the Board to delete the ISC and RBRP provisions in the proposed ATCM. (ENVIR 1, ENVIR 2, ENVIR 3)

D. Permitting BUGs to operate during compensated service interruptions is tantamount to dispatching them as grid resources. This is not appropriate since BUGs are the most polluting form of stationary electric power generation. A BUG running at 0.15 g/bhp-hr is more than 15 times dirtier that a simple cycle peaker. The fact that the majority of BUGs are located where people live and work makes them even less suited to provide relief to the electrical grid when compared to remotely located peaker plants. Our air dispersion modeling analysis shows that BUGs allowed to run up to 150 hours per year (in addition to 50 hours for maintenance and testing) would create a cancer risk of greater than 10 per million up to 60 meters away in both Fresno and San Diego. (ENVIR 1, ENVIR 2, ENVIR 3)

E. A joint statement by the California Energy Commission, Public Utility Commission, and the Conservation Financing Authority issued in June 2003 in Rulemaking 02-06-001 stated that

"The agencies' definition of demand response does not include or encourage switching to use of fossil fueled emergency backup generation, but high-efficiency, clean distributed generation may be used to supply on-site loads."

Wastewater treatment agencies and other essential public services should not be enrolled in ISCs. Subsequent to an April 2001 CPUC decision (001-04-006) the Commission has directed utilities to redesign their programs to assure participants can reduce load when called upon, and reiterated its commitment to exclude from demand response programs any customers who would switch to diesel backup generators. (ENVIR 1, ENVIR 2, ENVIR 3)

F. CARB staff has expressed the need to be especially responsive to waste water treatment and other essential public services enrolled in ISCs. Your staff believes enrollment in ISCs by these entities will help them attain discounted electricity rates, which can in turn be passed on in lower rates to their customers. This argument does not withstand close scrutiny. Other customers should not have to pay higher rates to subsidize discounts to ISC customers.

This is not a sound policy and has no business in a regulation that is meant to reduce exposure to harmful toxic emissions. We believe ISCs are an important line of defense in preventing rolling blackouts, but we are not convinced by CARB staff's argument to allow BUGs to operate in these programs is the best way to both maintain these programs and ensure reduced emissions. (ENVIR 1, ENVIR 2, ENVIR 3)

G. The CCA is opposed to the supplemental provisions to allow the use of BUGs to fulfill ISCs. We think it comes down to the lack of enforceability. In addition, it is bad precedent for this state because we are often looked to as the leaders in terms of reducing air pollution and there are various significant impacts that are caused by BUGs. (CCA)

Agency Response: We disagree with all these commenters. Demand response programs have existed for years. We believe it is appropriate to continue to allow the use of backup-generators in the demand response programs (DRP), provided the participating engines meet standards that are more stringent than for non-participating engines, and they are limited in the hours of operation. To this end, we included demand response provisions in the ATCM that allow the continued use of diesel-fueled backup generators in two types of programs, (e.g., interruptible service contracts (ISCs) and RBRP) under specified conditions.

Both types of programs are emergency programs, in which emergency backup engines are dispatched only when black outs are imminent or already occurring. Contrary to the commenters' suggestion, the ATCM does not allow engines in these programs to be operated as "mini-peakers" for purposes of load shedding in non-emergency situations. Moreover, the ATCM requires these engines to meet stringent emission control requirements, such as limits in emissions rates and hours of operation. In addition, the ATCM requires SDG&E to follow a district-approved environmental dispatch protocol for RBRP engines.

There are several benefits in allowing emergency standby engines to continue to participate in these programs. In most cases, the engines will be required to meet a lower emissions rate at an earlier date than comparable non-DRP engines. Because of this, emission reduction benefits would be realized whenever these engines are operated during emergency, non-DRP uses. Finally, the use of diesel-fueled engines in all demand response programs will be periodically reassessed to ensure that this program does not become a substitute for future additions of cleaner electrical generating resources.

We believe that the DRP provisions will ensure a high level of enforceability. In addition to the monitoring, reporting, and recordkeeping (MRR) requirements that apply to all other regulated engines, the DRP provisions contain extensive MRR requirements that apply specifically to DRP engines. Moreover, engines enrolled in the RBRP program in San Diego are subject to a district-approved environmental dispatch protocol and post-dispatching reporting by the district. We believe these extensive DRP provisions will

ensure that the enforceability of the ATCM provisions is as good or better for DRP engines than it is for non-DRP engines.

Regarding the comment relating to the rulemaking by the CEC and PUC, the ATCM does not affect or prevent the implementation of our sister agencies' rulemakings. The ATCM has no pre-emptive effect on their rulemakings; entities subject to their rulemaking and the ATCM would need to meet the requirements of both rules. In addition, we believe that there are no requirements in this ATCM that are inconsistent or contradictory with other agency rulemakings.

Regarding the comment relating to the additional risk posed by stationary diesel engines operated in response to DRP program requirements, we recognize that additional operation of an engine can increase exposure to diesel PM and cancer risk. However, we have established additional requirements for engines enrolled in ISCs and the RBRP that address these concerns. In-use engines enrolled in ISC programs prior to January 1, 2008 must meet a diesel PM standard of 0.15 g/bhp-hr. On or after January 1, 2008, these engines must meet a standard of 0.01 g/bhp-hr, if they wish to continue to be enrolled in an ISC. New engines that wish to enroll in an ISC must meet a standard of 0.01 g/bhp-hr.

Our dispersion analysis, as presented in Appendix E, *Stationary Diesel-Fueled Engines Health Risk Assessment Methodology*, of the Staff Report, shows that a typical engine emitting at 0.01 g/bhp-hr operated 200 hours per year would result in a cancer risk about 1 per million. Further, our survey results show that on average, engines enrolled in ISC programs operate about 55 hours per year. Our dispersion analysis shows that a typical engine that emits at a rate of 0.15 g/bhp-hr and is operated 55 hours per year in would result in a risk less than 10 per million. Engines enrolled in the RBRP are required to be dispatched in accordance with a district-approved environmental dispatch protocol. This protocol requires the San Diego Gas and Electric Company to dispatch engines in an order that protects public health – i.e., lowest emitting engines are dispatched first. Further, although the ATCM allows up to 75 hours of RBRP operation, since it was established in 2001, not one RBRP engine has ever been called into service.

Based on these reasons, we believe it is appropriate to permit the continued existence of DRP programs under the ATCM's stringent requirements.

9. **Comment:** Although we believe it is in the public's best interest to remove the ISC exemptions from the ATCM, if CARB persists in including them, we request that CARB reiterate in the ATCM a commitment to the joint position of the CPUC, CEC, and the CPA regarding economic demand response programs. Essentially provisions are needed in the ATCM that ensure diesel BUGs are not used as grid resources. (ENVIR 1, ENVIR 2, ENVIR 3)

Agency Response: We disagree; because the ATCM is an enforceable regulation, it is inappropriate to include unenforceable policy statements in the ATCM. However,

Resolution 03-30, which constitutes part of the formal rulemaking record for this ATCM, clearly states the ARB position on the use of standby generators in Demand Response Programs. In Resolution 03-30, the Board emphasized that, given the current participation of emergency standby engines in demand response programs, it is necessary to control emissions from those engines to the extent feasible. The Board also emphasized in Resolution 03-30 its intent to ensure that these engines are not allowed to operate for load shedding purposes during non-emergencies. Further, the Board directed the staff in the resolution to monitor the usage of emergency standby engines in demand response programs. Moreover, the Board directed ARB staff to periodically review the emission standards and operating requirements for these engines, to determine if additional restrictions are necessary, and to assess if the operation of these engines in demand response programs should be continued in consideration of California's energy needs. Based on these reasons, we believe it is both inappropriate and unnecessary to make the changes suggested by the commenter.

10. **Comment:** CCEEB supports the proposed modifications in the proposed ATCM to better integrate the ATCM with energy demand response programs, emergency response programs, and San Diego's RBRP. (CCEEB 1)

Agency Response: No modifications are necessary.

11. **Comment:** Why do the allowable hours for the maintenance and testing of Demand Response Program engines increase from 30 hours per year to 50 hours per year in 2008? (MD&AV)

Agency Response: This comment is based on an earlier version of the ATCM and no longer applies in the current version. In the current version of the ATCM, the Demand Response Program (DRP) engines are held to the same maintenance and testing hours-of-operation limits as emergency standby engines that are not enrolled in a DRP. The maximum maintenance and testing hours of operation are based on the diesel PM emission rate of the engine, not the calendar year of operation. For example, in-use emergency standby diesel engines that emit 0.40 g/bhp-hr of diesel PM can operate up to 30 hours, while an engine that emits 0.15g/bhp-hr can operate up to 50 hours (upon district approval).

12. **Comment:** The following language is recommended for "Interruptible Service Contract (ISC):"

    '"Interruptible Service Contract" (ISC) means a contractual arrangement in which a nonresidential customer of a utility distribution company is provided lower energy costs and/or receives payments and the utility has the ability to reduce or interrupt the customer's electrical service during a Stage 2 or Stage 3 alert.'
    (ACWA 1, ACWA 2)

Agency Response: We revised the ATCM's definition for "Interruptible Service Contract" consistent with the commenter's suggestion.

13. Comment: Revise the definition of "Rolling Blackout Reduction Program" to make it less specific and more inclusive. (ACWA 1, ACWA 2)

Agency Response: We disagree. The Rolling Blackout Reduction Program is a unique demand response program (DRP) implemented only in San Diego by the San Diego Gas and Electric Company. While allowing existing DRPs to continue under the ATCM provides certain benefits during power crises, the Board believes it would be inappropriate to encourage the expansion of DRP programs under the ATCM. This policy is based on the Board's careful balancing between the need to protect public health and the need to provide sufficient backup electric power during future power outages and imminent blackouts. Therefore, we did not make the suggested modification.

N. Remotely Located Engines

1. Comment: "This ATCM will not obtain the estimated reduction in 'cancer burden' because more of the emissions occur in remote or low populated areas than the emission inventory calculation assume. The MDAQMD and AVAQMD largest sources of diesel PM emissions have more emissions than CARB lists for the entire district. Goldstone emits 0.011 tpd of DPM vs. MDAQMD estimated total of 0.004 tpd. Mountain high emits 0.0255 tpd (0.0604 tpd in ski season) vs. AVAQMD estimated total of 0.0045 tpd. This sites use DICE as prime units because of lack of enough utility power." (MD&AV)

Agency Response: We agree that, like all emission inventories used by the districts, the ARB, and the U.S. EPA, the emissions inventory for this ATCM can be improved. However, we do not believe any changes to it are warranted at this time. We believe the Staff Report presents the most accurate, statewide total engine population and emission estimates because those estimates use the best data available to the staff at the time the report was written. While we achieved general agreement with district estimates, we recognize that the district-specific engine population and emission estimates presented in the Staff Report may not agree with corresponding estimates provided by some districts.

In those cases when there is a discrepancy, it is due to the necessity of using county-specific human population as a spatial surrogate to allocate statewide engine populations to specific districts. As discussed in the Staff Report, we are aware that the current spatial surrogate does not reflect the possibility that rural areas may have a higher percentage of stationary diesel engines for a given population. Specifically, it is likely that our engine population estimates may be low for rural districts such as the Mojave Desert AQMD and high for urban districts such as the South Coast AQMD and the San Diego APCD.

We intend to resolve the majority of the uncertainties and apparent discrepancies in the district-specific estimates as this ATCM is implemented and more detailed engine count data and other data become available.

2. Comment: "We (CAPCOA) would like to see a very limited exemption provided for engines that are at least one mile from the nearest receptor and have a risk that is below one in a million or a hazard index of – and a hazard index of 0.1 or a priority score of 1. And the engine would either need to be in central public service or compliance with the ATCM would need to create undue economic hardship." (CAPCOA 1, CAPCOA 2)

Agency Response: We agree that remotely located engines warrant treatment that differs from engines that are closer to receptors. However, we believe that these engines nevertheless contribute to regional levels of ambient diesel PM. Therefore, we believe it is more appropriate to regulate these engines over a longer time period rather than exempting them from the ATCM altogether. Thus, we included a provision to permit districts to delay implementation for remotely located engines using the distance and risk criteria suggested by the commenter. But, because we intended to regulate these engines over a longer period rather than giving them an outright exemption, we do not believe it is appropriate to include the suggested central public service or undue hardship criteria.

3. Comment:

A. The commenter states that previous versions of the ATCM stated "The requirements of this ATCM do not apply to Prime and Emergency Engines that are remotely located and meet the following conditions: the engine(s) or engine block is located more than one (1) mile from any offsite receptor and more than 1 mile from onsite home, school, day care center, nursing home, and/or hospital."

The generators used downrange are over 30 miles away depending on the location from any receptor mentioned above. These generators that are utilized downrange are as remote as you can get. Therefore, the receptors mentioned are not facing a health risk from the diesel particulate matter emitted from diesel burning internal combustion engines. This current ATCM will require particulate traps or filters on all prime stationary DICE.

The controlling of DICE for these generators that are located downrange will do nothing to reduce Fort Irwin's community to exposure from these sources. The distance between these emission sources already reduces the communities expose. Furthermore, Fort Irwin would have to incur the unnecessary costs associated with the installation of these traps or filters. Therefore it is requested the exemption listed above be placed back into the ATCM. (FI 1)

B. Beale AFB believes that radar station generators that are operated in non-"Emergency Use" modes should be included in the remote location exemption. (BAFB)

C. The commenter requests an exemption for all stationary diesel engines in remote locations, defined as more than one mile from sensitive receptors, be added to the ATCM. (KJC 1)

D. The commenter believes the ATCM should not apply to remotely located prime and emergency engines that are more than one mile from any offsite receptor. This would include homes, schools, day care centers, nursing homes and/or hospitals. (IMC)

Agency Response: As discussed in our response to Comment 2 above ("Remotely Located Engines"), we added a provision that allows an exemption for remotely located in-use prime engines that are shown to have a health risk impact below specified levels. For remotely located engines that meet the specified criteria, a delay in implementation from the requirements of the ATCM may be requested from the District. The delay would be until January 1, 2011. We believe the Fort Irwin generators would likely meet the minimum criteria to be eligible for this delay in implementation.

In addition to the exemption for remotely located engines, there is an exemption for low-use prime engines located outside school boundaries. Any low-use prime engine meeting the specified criteria, including those that are remotely located, may request this exemption from the District.

O. At-School and Near-School Requirements

1. Comment:

A. CAPCOA recommends the ATCM provision which does not allow engine testing and maintenance for engines located at schools when school sponsored activities are taking place be extended to any facility that is adjacent to a school and the engine is within 100 meters of the schools boundaries. In addition, it is necessary to clarify how the ATCM addresses Boarding Schools. Exceptions may be warranted that allow local districts to address unique operational needs. (CAPCOA 1, CAPCOA 2, SCAQMD 2)

The following language is proposed:

(e)(2)(A)1. No new stationary emergency standby diesel-fueled CI engine (>50 hp) located on or within 100 meters of school grounds shall operate for non-emergency use, including maintenance and testing purposes, when any school-sponsored activities are taking place. (CAPCOA 1)

B. The American Lung Association recommends that the ATCM not allow back-up generators located within 1000 feet of schools to operate within school hours or during schools sponsored activities. They also recommend that ARB consider include operational restrictions around day-care centers as well as schools. They do support the staff's amendment to the original ATCM language to include a buffer zone of 500 feet from schools and to require operating restrictions for BUGs operating within that distance. (ALAC 1, ALAC 2)

C. A commenter recommended that "In order to better protect children from diesel exposures, BUGs (back-up generators) operating within 1,000 feet of schools should not operate during school hours, and should not operate on unhealthy air days. BUG hours of operation should be generally limited to early morning and late afternoon when schools are not in session." (ENVIR 4)

D. Coalition for Clean Air recommended that near-school operations should be restricted within 1,000 feet, but felt 500 feet was acceptable and a very wise policy decision. (CCA)

Agency Response: We agree with the principle that at-school and near-school, non-emergency operations should be restricted. For engines on school grounds, the regulation was modified to include a prohibition against non-emergency use during any school-sponsored activity. There appears to be no opposition to this provision.

For engines near schools, comments provided at the Board hearings and in written testimony in favor of buffer zones suggested distances from schools ranging from 100 meters (330 feet) to 1000 feet. After careful consideration of the comments received and deliberation over the need to protect children's health to the maximum extent feasible, the regulation was modified to include a buffer zone of 500 feet around schools. The ATCM would prohibit non-emergency uses of an engine within that zone, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. However, this prohibition would not apply to engines that emit no more than 0.01 g/bhp-hr of diesel PM. Because this emissions level essentially represents the cleanest stationary diesel engine technology, the Board felt that it was appropriate to exempt such engines within the buffer zone in order to encourage owners to replace those engines with the cleanest engines available.

Based on our incremental risk analysis, we chose the 500 feet buffer zone because it represents the best balance at this time between the Board's desire for heightened protection of children's health and the need to provide affected engine owners with a reasonable opportunity to conduct non-emergency maintenance and testing activities. At 100 meters (330 feet), the buffer zone would provide about the same level of protection as a buffer zone at 500 feet. At either 330 feet or 500 feet, the residual risk is reduced by approximately one order of magnitude relative to a buffer zone at 1000 feet (modeled at 300 meters or 990 feet). Therefore, we eliminated the 1000 feet buffer zone as not providing the heightened protection the Board wants, and the 100 meter buffer zone as providing substantially equivalent protection as a buffer zone at 500 feet

but with greater implementation problems. In addition, more engines would be subject to the buffer zone restriction at 500 feet than at 330 feet, which could yield additional environmental benefits.

Because of these reasons, we believe the Board's action to establish a 500 feet buffer zone represents a careful and rational balancing of the need to protect children's health with the needs of the regulated community. For more information, the reader is directed to the additional document, "Staff Incremental Risk Analysis of Near School Diesel Engines," which was made available for public comment during the first 15-day comment period.

Regarding the comment on operational restrictions on unhealthy air days, we believe such a restriction is unnecessary and impractical at this time. First, as stated previously, the limitations on hours of operation for near-school emergency engines already provide heightened protection for school children. Second, "no operation" days would be logistically difficult to implement for engine owners. Engine owners, because of the near-school limitations, will generally have to plan in advance exactly when they can conduct their maintenance and testing operations. This planning requires certainty, and engine owners currently have no way to plan with certainty when unhealthy air days will occur. Even during a traditional high ozone season, there are day-to-day variations that would make it difficult, if not impossible, to plan a maintenance operation on a day that the owner can be certain will not be an unhealthy air day (i.e., "no operation" day). Therefore, we believe these types of temporal restrictions are best addressed through local voluntary programs, such as "Spare the Air" type programs currently implemented in Sacramento, the Bay Area, and other parts of California.

The comment on day-care centers is addressed in the response to Comment 5 below.

2. **Comment:** The AVAQMD commends the elimination of engine testing and maintenance for engines located at schools when any school-sponsored activities are taking place. However, the current ATCM does not address schools with animal husbandry programs where students care for animals at all times of the day, and where students reside on campus such as boarding schools, and youth detention facilities. It is necessary to clarify the ATCM requirements under these scenarios. (AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We agree that the ATCM does not explicitly distinguish between ordinary schools and alternative educational facilities such as boarding schools, youth detention facilities, and animal husbandry facilities. However, we believe we need to further explore this issue before we can determine if clarifying language is needed.

This issue is complex because, unlike ordinary schools, the "students" in these alternative facilities live, work, and in the case of detention facilities, are incarcerated in the same facilities. Therefore, they remain at the facilities essentially every day, 24 hours per day. Establishing a buffer zone around these facilities then becomes problematic because, if we used a prohibition similar to that used for near-school

engines, we would be effectively prohibiting all non-emergency uses of the engines. This is because there would be 24 hours per day of "school activities" at these facilities, which would prevent engines within a buffer zone around these schools from doing any maintenance and testing. A total prohibition on all maintenance and testing for these engines is unacceptable and would make it questionable whether these engines would be able to perform during a true emergency.

Based on these reasons, we believe additional time is required to explore alternative solutions for these school-like facilities. We will continue to work with the regulated community, public stakeholders, and the districts to determine an appropriate resolution. When an adequate resolution is achieved, we will return to the Board to propose amendments, if needed.

3. Comment:

A. CCEEB and SBC commented that without the near-school operation restrictions, the ATCM is health-protective of children at schools and more stringent provisions regarding schools are not necessary. Proposals to do "something more" than is necessary to protect public health lead to inconsistent policies and negatively affect California's business climate (CCEEB 1, SBC 1, CCEEB 2)

B. "Since the original proposal to restrict operation of engines on school property was sufficiently health protective (according to the risk analysis), the benefits of expanding the restriction (emergency engines within 500 feet of a school) appears to add unnecessary cost and could affect the ability to return an emergency engine to service as soon as possible." (DWPCLA 1)

Agency Response: We disagree. As discussed above, the Board carefully considered all testimony provided at the three hearings on this matter. After considerable deliberation and weighing of the costs and benefits, the Board chose to err on the side of caution and establish more protection for school children during school hours than was provided for in the original proposal. The original proposed ATCM language, presented at the November 2003 Board hearing, restricted operation of emergency standby engines located on school sites. After receiving testimony at all three hearings, the Board directed staff to develop additional requirements for emergency standby engines located near schools (i.e., the "buffer zone" concept discussed above).

At the Board's direction, we added a provision to the ATCM that requires owners of emergency standby engines located within 500 feet of school grounds to conduct non-emergency use operation, including maintenance and testing operations, between 7:30 a.m. and 3:30 p.m., on days when school is in session, unless the engines meet a diesel PM emission rate of 0.01 g/bhp-hr. In addition, for those engines that are located on school grounds, non-emergency operation is not allowed whenever there is a school-sponsored activity. We recognize that there could be school functions that are held on school grounds outside of these hours, but this was balanced against the need for owners of off-site engines to conduct maintenance activities during normal work hours.

We recommend that owners of off-site engines subject to this restriction work with school officials to ensure that non-emergency engine operation occurs when children are not present on school grounds.

4. **Comment:** SBC commented that the proposed near-school operation restrictions would hurt their ability to provide reliable service and be difficult to comply with. They also believe districts should be given the flexibility to look at individual situations. (SBC 1)

Agency Response: We disagree for several reasons. First, the actual number of engines that would be subject to the near-school buffer zone restriction is likely to be a very small fraction of the total number of engines in California. Second, the restricted hours for non-emergency use are between 7:30 a.m. and 3:30 p.m. when school is in session. Third, the ATCM encourages owners of near-school engines to replace such engines with the cleanest engines available (emitting at 0.01 g/bhp-hr). Thus, affected owners and operators can adjust their maintenance and testing activities to take place outside of the enumerated hour restrictions, during non-school days (weekends, holidays), or during shortened school days (which are announced in advance by schools). If those options are somehow unavailable, the engine owner could choose to replace the engine with a 0.01 g/bhp-hr engine and not face any near-school restrictions at all. Based on these reasons, we do not believe near-school engine operations will be adversely affected significantly. Consequently, we do not believe it is appropriate to authorize districts flexibility to vary from these near-school provisions.

5. **Comment:** "We believe the definition of school as it appears in the proposed regulation does not include on site employer-sponsored day care centers or the studio classrooms that are required for young actors. We would like clarification of that point to be certain." (MPAA 1)

Agency Response: For this ATCM, the Board's intent with regard to the at-school and near-school provisions is to provide heightened protection for children while they are in school. "School" is defined in the ATCM as any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12 (a.k.a., K-12), inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" is further defined as including the school proper and all improved school property. While the definition is somewhat circular in its use of the term "school," we decided it was appropriate to use this definition, as it is virtually identical to the definition of "school" in Health and Safety Code section 42301.9 (part of the public notice requirements for near school hazardous air emission releases in H&SC 42301.6 and 42301.7).

Here, the on-site, employer-sponsored day care center, as described by the commenter, would not qualify as a school because a day-care center's primary purpose is to provide babysitting services for pre-school children (i.e., pre-kindergarten), with perhaps some incidental educational activities. While some day-care centers may provide part-time care for children in kindergarten or beyond, their primary purpose

again in those situations typically is to provide recreational activities for the children while the children are waiting to be picked up after normal school hours by their parents. Therefore, day care centers whose primary purpose is to provide babysitting services would not qualify as "schools" because they are not used "for purposes of the education of…children in kindergarten or any of grades 1 to 12…."

Although day-care centers would not be subject to the current ATCM's school-related provisions, we will be investigating the feasibility of additional provisions for engines that are near childcare facilities. Under Resolution 03-30, the Board directed staff to work with the Community Care Licensing Division of the California Department of Social Services and other interested parties to determine if additional restrictions on stationary engines near childcare facilities are necessary. The Board further directed staff to propose, on or before December 30, 2004, for the Board's consideration such modifications to the adopted ATCM that are necessary to protect the health of children in such childcare facilities.

In contrast to day-care centers, studio classrooms are used for the education of children in K-12. However, these typically are mobile trailers or unused rooms in studio movie lots that are procured by the studios on an as-needed basis to provide tutoring services to actor children pursuant to State law. Such classes are generally used for a short period (e.g., 3 hours) during breaks in a studio production. Aside from being used for tutoring, these facilities typically do not exhibit other indicia of what are commonly considered as schools (e.g., lack of playground or physical education facilities, a school library, and school administrative facilities). In addition, the classes may be converted to other non-educational uses once the actor children are no longer needed for a studio production. Moreover, because these classes are not necessarily fixed in one location, it could be logistically difficult for engine owners to determine at any given time whether they are within the restricted buffer zones proximate to these classes. For these reasons, we believe it would be inappropriate to apply the near-school provisions in the ATCM to these studio classrooms.

By limiting the provision to facilities whose primary function at all times is to educate children in K-12, we are establishing a reasonable bright line interpretation of the "school" definition with which to determine the facilities that are covered by the provision.

6. **Comment:** "We would like the definition of 'school' to be modified to exclude areas used as parking lots as well as undeveloped areas. Since the purpose of the restriction is to protect the health of children, and children are not present for any appreciable period of time in parking lots, we think parking lots should be excluded from the definition of "school". (MPAA 1, MPAA 2)

Agency Response: We disagree. We defined "school" and "school grounds" as including not only the school proper, but also any building or structure, playground, athletic field, or other areas of school property except for unimproved school property. The Board's intent in directing staff to propose a near-school "buffer zone" provision is

to provide heightened protection for schoolchildren whenever school is in session. Due to budgetary constraints, many schools often use portable classrooms that they locate on or adjacent to the school parking lot due to a lack of available space. In addition, schools may use the parking lot for school-related activities during normal school hours. Also, the school parking lot often contains large numbers of children in all hours during a normal school day for loading school buses, preparing for field trips, and entering or leaving the parents' cars. In light of the Board's intent to provide heightened protection during most of a school day and the potential for schools using the parking lot for school-related activities during school hours, we believe it would be inappropriate to modify the ATCM as recommended by the commenter.

P. Fuels and Technologies

1. **Comment:** The commenter suggests that Staff either eliminate the provision that alternative diesel fuels must be verified, or at a minimum modify the Verification Procedure to provide for the verification of fuel strategies that achieve PM and/or NOx reductions but which are presently precluded from verification given the required reduction thresholds. (BIO)

Agency Response: We disagree. We believe it is important to continue to require all alternative diesel fuels to meet the requirements of the Verification Procedure. This will ensure that the proponent of an alternative diesel fuel has established its impact on emissions, subjected the fuel to a durability demonstration and field test, and shown that the fuel has been evaluated thoroughly for multi-media impacts. We agree that the current version of the Verification Procedure limits its applicability to only those fuels that can achieve a minimum of 25% reduction in PM emissions. We are considering whether it is appropriate to have a different criterion for minimum PM reductions and, if so, what options are available to implement a different minimum reduction criteria.

2. **Comment:** Stationary sources are permitted to help ensure their continued compliance so the control equipment may not need to be "verified", but the fuels may have a negative impact on the engine operations. The only possible way this would make sense is to require alternative fuel and alternative diesel fuel used in a stationary diesel engine to meet applicable Department of Measurement Standards requirements. If DMS has no Standard, the fuel should not be allowed to be used regardless of what the source testing show. (BP)

Agency Response: We disagree. The commenter seems to be confusing the role of the Department of Measurement Standards (DMS) vis-à-vis the Air Resources Board. The principal task of the California Department of Food and Agriculture, Division of Measurement Standards (in the Petroleum Products Program) is to regulate and enforce the advertising, labeling and quality specifications for motor oils, engine fuels, gear oils, brake fluids, automatic transmission fluids, and engine coolants. In adopting these specifications it is the intent of the Division of Measurement and Standards to adopt by reference the latest standards of the American Society for Testing and

Materials (ASTM). If there are no ASTM standards for a particular fuel, the Department shall adopt an interim standard established by a recognized consensus organization or standards writing organization. If the ASTM later adopts a standard, it shall be the recognized standard. Cal. Bus. & Prof. Code § 13401 (West Supp. 2001) The regulations promulgated by the DMS serve to protect consumers by ensuring that the fuels available to California users are of uniform, predictable quality and meet specified standards and specifications for quality. Their regulations apply concurrently with those of the Air Resources Board, with neither agency having a preemptive effect on the other's fuel regulations.

By contrast, the function of the Air Resources Board in this matter is to regulate fuels to control the emissions of harmful pollutants from the use of such fuels. A fuel can meet DSM standards for quality and uniformity and still fail ARB standards for air quality emissions. Thus, it makes little sense to allow the use of fuel under the ATCM that meets only DSM standards and not ARB's. Doing so would not ensure that the air quality benefits of the ATCM are maintained. It should be noted that the ATCM does not require verified fuels, but rather requires verification only for those alternative diesel fuel and fuel additives that do not otherwise meet the fuels criteria specified in the ATCM.

With regard to the comment about negative impacts on engines from the use of verified fuels, it remains axiomatic that engine owners will use fuels that are compatible with their stationary engine. To do otherwise would not be in their best interest. Therefore, we believe owners will use fuel that does not adversely affects their engines.

3. **Comment:** The definition of "alternative diesel fuel" should match alternative diesel fuel definitions in the Verification Procedures, Warranty and In-Use Compliance, and the Portable Diesel rules. (BP)

Agency Response: We agree that the definitions in Verification Procedure and the two ATCMs cited (Portable and Stationary Engine) should be equivalent to the extent possible, but slight differences are required for this ATCM. We modified the definition for "alternative diesel fuel" in this ATCM in recognition of aspects unique to stationary engines. However, the substantive elements and requirements of the definition in both ATCMs are equivalent. We believe these slight differences will serve to enhance the enforceability and benefits of this ATCM while maintaining consistency with both the Portable Engine ATCM and the Verification Procedure.

4. **Comment:** The definition of "alternative diesel fuel" should be amended to clarify that a blend resulting from combining an alternative diesel fuel (e.g. Fischer Tropsch) with a "diesel fuel", or a "CARB diesel fuel" would also be considered an alternative diesel fuel, unless otherwise specified when an alternative diesel fuel is "verified." Currently, it is unclear how such a blend would be defined for purposes of this rule (BP)

Agency Response: We disagree and believe no modification or clarification is necessary. As stated previously, the ATCM does not require verified fuels to be used. Under the fuel requirements, an engine owner can use CARB diesel, an alternative fuel (i.e., natural gas, propane, ethanol, and methanol), a verified alternative diesel fuel, CARB diesel with verified fuel additives, or any combination of these. In addition, the definition for "alternative diesel fuel" broadly defines it as any fuel that is not No.1-D or No.2-D diesel or an alternative fuel, and "alternative diesel fuel" includes biodiesel, Fischer-Tropsch fuels, diesel emulsions, and fuels with additives. Thus, a reading of both the fuel requirements and the definition for "alternative diesel fuel" together shows that any combination of CARB diesel, alternative fuel, verified alternative diesel fuel, and verified fuel additives would meet the ATCM requirements. . A blend of any of these fuels could be used in stationary engines, provided each fuel or additive in the blend either meets the verification requirements individually or is otherwise one of the enumerated fuels that are permitted to be used (e.g., CARB diesel, alternative fuel).

5. **Comment:** "The Requirement Section from the Portable rule (93116.3) includes the following note: "Note that credit for diesel PM reductions for CARB diesel fuel blends that use biodiesel, Fischer Tropsch fuels, or emulsions of water in diesel fuel is available only for fuel blends that have satisfied the requirements of the Verification Procedures…" A similar note should be added to the Stationary Proposal with the following revisions: "Note that credit for diesel PM reductions for **diesel fuel or** CARB diesel fuel blends that **use an alternative diesel fuel such as** biodiesel, Fischer Tropsch fuels, or emulsions of water in diesel fuel is available only for fuel blends that **have been verified through** the Verification Procedures…" [emphasis in the original] (BP)

Agency Response: We disagree and do not believe the suggested note is necessary for this ATCM. Although the ATCM requires any alternative diesel fuel component of a fuel blend to be verified (primarily for the multi-media impact and durability impact evaluations that are part of the Verification process), the ATCM does not require blends of diesel fuel /alternative diesel as a whole to satisfy the requirements of the Verification procedure. This is because the emission reductions associated with using a blend would be determined through emission testing of the stationary engine using the fuel blend, thereby negating the need to verify the emission benefits of the blend through the separate Verification Procedure. It should be noted that the ATCM does not preclude a refiner from verifying a fuel blend through the Verification Procedure.

6. **Comment**: To achieve maximum emission reductions, in both NOx and diesel PM, it is recommended that the ATCM require the owner of a new, prime engine to consider and analyze the feasibility of using alternate cleaner fuels (such as natural gas). A clean fuel analysis would be submitted with the permit application for the new engine. The APCO may require use of an alternative fuel if the analysis considers the fuel feasible. (CAPCOA 1, AVAQMD 1, MDAQMD, AVAQMD 2, AVAQMD 3)

Agency Response: We disagree. Although we think that it is prudent for an owner to look at the feasibility of using alternate fuels – and nothing precludes a District from adopting a local rule that includes such a provision – we do not believe it should be a mandated requirement in the ATCM. The ATCM requires new prime diesel engines to meet diesel PM emission rate of 0.01 g/bhp-hr and meet the off-road engine certification standards for an off-road engine of the same horsepower rating. These engines are also required to use "clean' fuels: CARB diesel, verified alternative diesel fuels, or alternate fuels like natural gas. Base on these reasons, we believe the ATCM requirements are sufficiently stringent to ensure public health protection from the continued use of new prime diesel engines without the added cost for fuels analyses that could be imposed under the commenters' suggestion.

7. **Comment:** Unfortunately, the proposed ATCM provides an unbalanced approach to alternatively fueled engine controls that will likely result in increased emissions, increased costs, and risks. The rule provides that a new or an existing engine that uses or begins to use an "alternative fuel" is in compliance with the rule without any limit on its PM emissions, or any other criteria or toxic contaminant. We ask that the Board revise the ATCM to ensure that the use of an alternative fuel will not increase PM, other toxic emissions, or criteria pollutants as compared to the use of ULSD and a verified PM trap. (WSPA)

Agency Response: We disagree. The primary goal of the ATCM is to establish requirements that limit the emissions of diesel PM from stationary compression ignition (CI) engines. An owner that uses an alternative fuel – natural gas, propane, ethanol, or methanol – in his/her stationary CI engine will most likely either convert it to a spark-ignited (SI) engine, or convert the engine to a dual-fueled engine, in which diesel fuel or an alternative diesel fuel is used as the ignition source. For the following reasons, the suggested modification is not necessary.

On the one hand, if the owner converts his CI engine to an SI engine, the engine would fall outside the scope of the ATCM. However, the converted SI engine could then be subject to a district or ARB regulation on spark-ignition engines, under which the engine's exhaust emissions would be controlled.

On the other hand, if the owner converts the engine to a dual-fueled engine that uses diesel and an alternative fuel, that engine would be subject to the same requirements as a 100% diesel fueled engine, with one exception. If the engine is an in-use engine and the diesel fraction is less than 5 parts diesel/100 parts total fuel on an energy equivalent basis (a.k.a. "diesel-pilot engines"), the engine would be exempt from the emission standards and operational limits of the ATCM. In-use diesel-pilot engines are exempt because, 1) the conversion to dual-fuel already represents an 85% reduction in diesel PM emissions, which is equivalent to the in-use prime diesel engine standards, and 2) the owners are required to provide recordkeeping and reporting information. In addition, we are committed to reevaluate the health risk posed by exposure to the exhaust of these engines at a later date.

Based on these reasons, we believe the current provisions in the ATCM addressing the use of alternative fuels are sufficiently health protective and do not need revision.

8. **Comment:** We request that the Board clarify that by simply mandating the use of, or mandating the purchase of, only alternative fuels only without any other limits to prevent increases of other pollutants, is not considered more stringent for purposes of this section. We also suggest that since the proposed ATCM already allows the use of alternative fuels for compliance, the mandating of only the alternative fuels option is not "more stringent" than the proposed ATCM. (WSPA)

Agency Response: We disagree and believe the suggested clarification and modification are inappropriate. As provided in H&SC section 39666(d), the districts have the authority to adopt and enforce measures that are equivalent to or more stringent than those specified in the ATCM. The ATCM currently allows the use of alternative fuels (natural gas, propane, methanol, ethanol) in diesel-fueled CI engines, but it does not require such fuels. If a district so desires, it could mandate the use of alternative fuels in diesel-fueled engines. Because the use of an alternative fuel is already permitted as an option in the ATCM, mandating its use exclusive of other fuels is at least equivalent to the ATCM and, arguably, more stringent, because such a mandate would prohibit the use of diesel fuel.

9. **Comment**: Diesel particulate traps will work best with ultra-low sulfur diesel (ULSD) fuel, if the requirements go in place prior to 2006, when ULSD is commonly available, the delivery of ULSD fuel to locations with new engines adding emissions and expense. Typically ULSD is available only at refinery racks located in central L.A. or the Bay Area. Therefore, diesel delivery trucks will have extended trips picking up ULSD and delivering to outlying areas and this special delivery adding to the cost of the ULSD fuel. (CIOMA)

Agency Response: We disagree. As discussed in the Staff Report, there are currently over 50 stationary engines with diesel particulate filters installed across the state. Those engines are currently obtaining ULSD fuel or using CARB diesel with no hardware problems. An adequate supply of ULSD does not appear to be an issue for those engines at this time. Over the longer term, we do not anticipate any supply problems. This is because the ATCM's fuel requirements are designed to coincide with the upcoming widespread use and distribution of CARB diesel with ultra-low sulfur. As the CARB fuel requirements change in the 2006 timeframe, a seamless change for stationary engines should take place.

10. **Comment**: Fuel availability should not be a problem for emergency backup generator engines. First, the engines are used for emergency purposes, commonly running very few hours per year. Secondly, the fuel is currently available in the state. (CCA)

Agency Response: We agree.

Q. Health Risk Assessment and Dispersion Modeling

1. **Comment:** We recommend that CARB review the accuracy and validity of the estimated annual premature mortality values identified in Lloyd and Cackette, (Lloyd, A.C.; Cackette, T.A. *Diesel Engines: Environmental Impact and Control*, J Air Waste management Assoc.; 2001*.)* and the manner in which it is used by this ATCM. In the Final Statement of Reasons, CARB should provide a written description of the review process and its findings, as well as the corresponding calculations in an excel file format if they continue to rely upon that article (EMA 1)

Agency Response: Staff does not believe a review of the accuracy and validity of the mortality values is merited. As discussed in the Staff Report, we based our premature mortality analysis on sound, peer-reviewed, and defensible methodological elements from Krewski *et al.* (*Reanalysis of the Harvard Six Cities Study and American Cancer Society Study of Particulate Air Pollution and Mortality, Health Effects Institute*, Cambridge, MA; 2000) (Staff Report at 125). Furthermore, the U.S. EPA has been using Krewski's study for its regulatory impact analysis since 2000. Based on these reasons, we believe it is unnecessary to either conduct the suggested review or provide the suggested written description.

All calculations and risk analyses for this rulemaking were published in the Staff Report and its appendices. The documentation was made available for public comment and review in the manner prescribed under the Government Code and the Administrative Procedure Act.

2. **Comment:** CARB should conduct a refined risk assessment using more accurate, representative, and reasonable data as permitted by the OEHHA risk assessment guidelines. (EMA)

Agency Response: We disagree and believe the suggested assessment is neither necessary nor appropriate. As discussed in Appendix E of the Staff Report, the methodology used in this risk assessment is consistent with the Tier-1 analysis presented in the OEHHA and ARB guidelines. The assessment obtained by using these guidelines provides a "qualitative" assessment of the potential risk levels near operating stationary diesel-fueled engines. To this end, the data used to estimate risk was not based upon specific engine location or operating parameters. Instead, general assumptions bracketing a fairly broad range of possible operating scenarios were used to ensure that the proposed ATCM would be as health protective across the broadest range of conditions as possible. This is the appropriate approach for assessing risks on a statewide basis. By contrast, the refined assessment suggested by the commenter is more appropriate for assessing risks at or near a specific, individual facility.

3. **Comment:** We recommend that the cost effectiveness analysis be revised based upon consideration of zero cancer risk based on the findings of the U.S. EPA. (EMA 1)

Agency Response: We disagree with this recommendation. Pursuant to H&SC sections 39661 and 39670, the Scientific Review Panel (SRP) reviewed and confirmed the Board's determination that there is not sufficient evidence to support identification of a threshold level for diesel PM below which no significant adverse health affects are anticipated. Therefore, zero or "no" diesel PM health risk can be assured only to the extent that zero or "no" exposure can be assured. Because neighborhood receptor exposure to diesel PM emissions from a stationary diesel engine cannot be ruled out, we cannot include zero risk in the theoretical cancer range of its health risk assessment analysis.

4. **Comment:** We recommend that the cost effectiveness analysis be revised based upon consideration of the findings from the review by CARB of the appropriateness and use of premature mortality estimates identified in Lloyd and Cackette. (EMA 1)

Agency Response: We disagree and believe the suggested revision is inappropriate. As discussed in the Staff Report, we our premature mortality analysis on sound, peer-reviewed, and defensible methodological elements from Krewski *et al.* (*Reanalysis of the Harvard Six Cities Study and American Cancer Society Study of Particulate Air Pollution and Mortality, Health Effects Institute*, Cambridge, MA; 2000) (Staff Report at 125). Furthermore, the U.S. EPA has been using Krewski's study for its regulatory impact analysis since 2000. Based on these reasons, we believe no modification to the cost-effectiveness analysis is necessary or appropriate.

5. **Comment:** We recommend that the cost effectiveness analysis be revised based upon estimates of the cost of implementation of the ATCM using an approach with equal bias as that used to derive estimates of potential cancer risks. The overall approach taken in the analysis to estimate potential compliance costs appears intended to bias estimated costs of implementation and compliance down. This is inconsistent with the approach taken in the health risk assessment, which was intended by CARB to bias risk estimates up. The effect of the approach taken by CARB in its cost analysis is biased to produce lower costs of compliance and, in turn, greater estimates of the possible cost effectiveness of the ATCM. (EMA 1)

Agency Response: We disagree with this comment and the suggestion that the cost estimates were "biased down" and risk assessments were "biased up." The overall approach to determine risk was not intended to "bias risk up." Estimated exposure concentrations and resultant cancer risks were calculated at varying downwind distances, including "point of maximum impact" (PMI) as determined using air dispersion modeling. The modeling and health risk assessment parameters are generally conservative as required under OEHHA and ARB guidelines and are summarized in the Staff Report (Staff Report, App. E)

To determine the cost-effectiveness of the proposed regulation (on a diesel PM basis), we divided the sum of the annualized costs and annual ongoing costs by the diesel PM emission reductions attributable to the ATCM. Cost estimates were generally based on

survey responses and represent the most accurate cost estimates available. A detailed description of the methodology for estimating costs and cost effectiveness is contained in the Staff Report. (Staff Report, Ch. IX and App. I)

A review of both assessments would show that there was no biasing of either analysis, intended or otherwise.

6. **Comment:** The AVAQMD and MDAQMD agree that this ATCM when implemented is likely to reduce emissions of 'diesel particulate matter' (DPM) and the associated potential cancer risk by 75 percent (%) by 2010 and 85% by 2020. However, the AVAQMD and MDAQMD disagree that the potential cancer burden will be reduced by the same percentage within each district. This is due to the fact that a large portion of the DPM emissions within both districts occurs in the unpopulated or sparely populated areas of the district. (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: See response to Comment 1, "Remotely Located Engines."

7. **Comment:** We believe that many of the conservative assumptions used in the air dispersion modeling are neither realistic nor representative of ordinary or typical operation of stationary engines. Consequently, the compounded use of such assumptions produce estimates of the predicted concentration of emissions from stationary engines that are not reasonable or representative estimates of the degree of potential exposure to California residents. The assumptions and input values used by CARB are at best, bounding estimates, not estimates of the exposure a typical or average person may receive. Because this distinction is not clearly communicated in the ISOR, it has the potential to be overlooked or misunderstood by stakeholders and further confuses or misinforms stakeholders. (EMA 3)

Agency Response: We disagree. The key air dispersion modeling assumptions and health risk assessment parameters that we used to estimate exposure and risk are presented in the Staff Report (Staff Report, Table 1, App. E). As discussed in Appendix E, the methodology used in this risk assessment is consistent with the Tier-1 analysis presented in the OEHHA and ARB guidelines for these assessments. The results obtained by using these guidelines provide a "qualitative" assessment of the potential risk levels near operating stationary diesel-fueled engines. To this end, the data we used to estimate risk was not based upon specific engine location or operating parameters. Instead, we used general assumptions bracketing a fairly broad range of possible operating scenarios. This is the appropriately conservative approach when assessing statewide risks to be addressed by a statewide regulation.

R. Emission Inventory

1. Comment: The ARB's emission inventory for emissions of diesel PM underestimates the actual diesel PM emissions in the districts. (MD&AV)

Agency Response: As discussed elsewhere in this FSOR, we believe the ATCM is based upon the best available cost data, risk estimates, and emission inventories. This does not mean that the data, particularly emission inventories, remain static. Continuing installation and removal of engines from the districts, as well as engine deterioration, changes in use patterns and other factors, result in an ongoing need to periodically revise and update the emission inventories. We are committed to working with the districts to update the districts' emission inventories to reflect the appropriate diesel PM emissions attributable to a specific district.

2. Comment: The use of population as surrogate for allocating diesel PM emissions is inappropriate and led to incorrect emission estimates for the district. (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: See our response to Comment 1, "Remotely Located Engines."

3. Comment: Attachment G in the emissions inventory reveals the possibility that the survey underestimated agricultural pumps throughout the state. The same underestimation of pumps for the remainder of the state would be a significant emissions source compared to other in-use diesel engine emissions. (Moralez)

Agency Response: We believe that the statewide total engine population and emissions estimates presented in the Staff Report are the most accurate possible based on data available at this time. We recognize that the district-specific engine population and emissions estimates presented in this methodology may not agree with those of the districts. This is due to the necessity of using county-specific human population as a spatial surrogate to allocate statewide engine populations to specific districts. We are aware that the current spatial surrogate does not reflect the possibility that rural areas may have a higher percentage of stationary diesel engines for a given population. Specifically, it is likely that our engine population estimates may be low for rural districts such as the Mojave Desert AQMD and high for urban districts such as the South Coast AWMD and the San Diego APCD. We intend to resolve the majority of the uncertainties and apparent discrepancies in the district-specific estimates, as the Stationary Diesel ATCM is implemented and more detailed engine count data become available (Staff Report, App. D at D-16). See also our response to Comment 1, "Remotely Located Engines."

S. Agricultural Operations

1. Comment: The definition of "Agricultural Operations" is not inclusive of operations subject to California Public Utility Commission agricultural tariffs (CPUC ag tariffs).

The definition of “Agricultural Operations” should be revised to read:

> “ Agricultural operations” means use of electricity for the growing and harvesting of crops or the raising of fowl or animals for the primary purpose of making a profit, providing a livelihood, or conducting agricultural research or instruction by an educational institution. Agricultural operations do not include activities involving the processing or distribution of crops, fowl, or other animals. Any electrical account that is on a utility agricultural tariff is deemed to be in compliance with this definition.” (ACWA 1)

Agency Response: We disagree. The ATCM’s definition of “agricultural operations” conforms with similar definitions used historically by the Board and the districts. Moreover, the suggested change will likely increase the number of exempt engines (vis-à-vis the ATCM’s exemption for in-use agricultural engines). The fact that the CPUC subjects some operations to “ag tariffs” is not dispositive. Operations subject to ag tariffs may, in fact, not be agricultural operations in the historical sense. Indeed, the ag tariff likely will include some facilities that, in fact, have little or nothing to do with the growing and harvesting of crops or other activities traditionally associated with agricultural operations. Without a compelling basis for incorporating the suggested change, we believe the potential decrease in emission reduction benefits outweighs whatever benefits are intended by the commenter’s suggested change.

2. Comment:

A. The ATCM should include in-use agricultural diesel-fueled CI engines. (ALAC 1, CCA)

B. The ATCM should include in-use agricultural diesel-fueled CI engines and report back to the Air Resources Board with proposed revisions to the ATCM within six months. (ENVIR 4)

Agency Response: We agree that in-use agricultural engines should be regulated at an appropriate time in the future. However, we believe there was insufficient data on which to craft adequate requirements in this ATCM for engines that, until very recently, have never been subject to appreciable emission controls (see also our response to Comment 4, “Exemptions and Delays in Implementation”).

We are working with the agricultural community to develop workable language for the inclusion of in-use agricultural engines in the ATCM. When such language has been drafted, we will conduct appropriate workshops to gather public input and propose the language to the Board for its approval. At this point, our discussions with stakeholders to include in-use agricultural engines in the ATCM are in their preliminary stages. As such, we are uncertain as to when we will return to the Board with regulatory language relating to in-use agricultural engines. Considering the time it generally takes to complete this kind of process, we believe that reporting back to the Board with revised regulatory language within six months would be optimistic at best.

T. Environmental Justice

1. **Comment:** The MDAQMD is also concerned about the potential environmental justice component involved in requiring remotely located engines to comply with the proposed ATCM on the same schedule as all other engines. In general, older CI engines are more costly to retrofit. Such engines are often located in or near disadvantaged communities. Any compliance scheme that fails to encourage the retrofit of the dirtiest engines with large population impact first would most likely not satisfy environmental justice concerns. The MDAQMD suggests that a delayed compliance for remotely located engines would encourage the shift of retrofit efforts to more populated locations and thus help in satisfying environmental justice concerns. (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: We agree. See our responses in ”Remotely Located Engines.”

U. AB 2588 and Other Regulatory Programs

1. **Comment:** The stationary diesel-fueled CI ATCM needs to clarify the interaction and distinction between the ATCM and other regulatory programs, particularly with respect to compliance requirements, emission testing, and quantification of emissions. (AVAQMD 1, AVAQMD 2, AVAQMD 3, CAPCOA 1, MDAQMD)

Agency Response: We disagree. It would be inappropriate for the regulatory language contained in the ATCM to contain clarifying language to distinguish itself from other regulatory programs, such as the Air Toxics Hot Spots Program.

The principle distinction between the two is that the ATCM program is a technology-based program and the Air Toxics Hot Spots Program is risked-based. How the two programs interact is dependent on numerous issues. Among these is the need for flexibility within each program to allow individual air districts to implement both programs in such a way as to fulfill the requirements of the programs and still be workable at a local level. To include specific language in the ATCM to include compliance requirements, emission testing requirements, and specifics on quantifying emissions of diesel PM would intrude on both the regulatory requirements of the Air Toxic Hot Spots Program and the ability of the districts to implement the ATCM in a way that works most appropriately at a local level.

The Air Toxic Hot Spots Program regulatory is currently undergoing review and revision. The ARB staff recommends that the districts work within the framework of that process to include regulatory language that addresses their concerns about the interaction of the stationary diesel-fueled CI ATCM and the Air Toxic Hot Spots Program.

V. Violations Provisions

1. **Comment:** "District lawyers have been asked to review the sections on violations." (MD&AV)

Agency Response: A preliminary “violations” provision was discussed prior to the formal rulemaking process. It was subsequently removed from the draft ATCM prior to the November 2003 hearing.

2. **Comment:** "The AVAQMD (MDAQMD) has received several CARB draft proposals for new language to be submitted at the November 20, 2003 hearing. One of these draft proposals involves the addition of a new section (j) 'Violations'. CARB staff has recently indicated that this particular draft proposal will not be put forward at this time. However, the AVAQMD (MDAQMD) has significant comments related to this section and if it is proposed we will submit those comments at a later date." (AVAQMD 1, AVAQMD 2, AVAQMD 3, MDAQMD)

Agency Response: See previous comment.

W. Procedure, Definitions and Miscellaneous Issues

1. **Comment:** The AIR Committee and its membership respectively request that the Board keep the public record open (beyond the December 11, 2003 Board Meeting) on the consideration of this regulation and any amendments addressing near-school operation, such that we and other stakeholders may have the opportunity to provide testimony at a later time after the remaining issues are sufficiently considered by staff. (AIR 2, SCAP 4)

Agency Response: Pursuant to Executive Order S-2-03, the record remained open until the Board approved adoption of the ATCM at the February 2004 hearing.

2. **Comment:** Regarding the sections addressing the Rolling Blackout Reduction Program (RBRP) and the Interruptible Service Contract (ISC) engines, the terms ISC, RBRP, and SDGE Service area need to be defined. Also, the subsections on RBRP should be placed after the ISC subsections, not before. (MD&AV)

Agency Response: We agree in part. We revised the language that addresses RBRP and ISC engines. We also added definitions for “Rolling Blackout Reduction Program” and “Interruptible Service Contract.” The term “SDGE Service Area” is not defined as it is no longer used in the ATCM. The RBRP and ISC provisions were rearranged to be clearer.

3. **Comment:** Most facilities are not familiar with the term “In-Use.” They are very familiar with the term “Existing.” Therefore, throughout the ATCM the term “In-

Use" should be replaced with the term "Existing." (AVAQMD 1, AVAQMD 2, AVAQMD 3)

Agency Response: We disagree. The term "In-Use" was used early on in the ATCM development process. We believe it is a more appropriate descriptor for engines that are currently in-use (as of January 1, 2005) than the term "existing." As a result, the suggested modification was not made.

4. Comment: The distance to the nearest receptor as required as required in subsection (e)(4)(A)3e. should be in feet or meters. Also needed is the receptor type and distance to the nearest school. (MDAQMD)

Agency Response: We agree and made the suggested changes.

5. Comment: Revise section (e)(2)(F)(1)(b)I. to read:

"a. the engine's permit to operate allows operation of the engine in anticipation of a rotating outage, or the District has established a policy or program that authorizes operation of the engine in anticipation of or to prevent a rotating outage: and…." (ACWA 1, ACWA 2)

Agency Response: We disagree. The suggested language would encourage the use of emergency backup engines for load shedding before a rotating outage has become imminent. As stated elsewhere in this FSOR, the intent of the rotating outage provision is to allow the restricted use of an emergency standby engine when a rotating outage is imminent. Therefore, the suggested language would conflict with the Board's stated intent regarding the rotating outage provision, and no modifications were made accordingly.

6. Comment: The proposed ATCM definition of "Dual-fuel Diesel Pilot Engine" should be revised to read:

"Dual-fuel Diesel Pilot Engine" means a dual-fueled engine that uses as a pilot ignition source at an annual average ratio of no more than 1 part diesel fuel to 10 parts total fuel on an energy equivalent basis." (M&E)

Agency Response: We disagree. The proposed modification would represent a maximum annual average concentration of ten percent diesel in a duel-fuel system. Based on the relatively low need for diesel in pilot engines, we believe the suggested language would represent a significant loss of potential emission reductions that is not justified for diesel-pilot engines by the available data. Therefore, we have defined dual-fuel diesel pilot engines as having "an annual average ratio of less than 5 parts diesel fuel to 100 parts total fuel," (i.e., an annual average concentration of diesel fuel that is less than five percent of the total fuel).

IV. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES – FIRST NOTICE OF MODIFIED TEXT

Set forth below is a summary of each objection or recommendation made regarding the specific regulatory actions proposed in the First Notice of Modified Text (dated May 14, 2004), together with an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments were grouped by topic whenever possible.

Comments Received during the Initial 15-day Comment Period

Abbreviation	Reference Number	Commenter
AVAQMD	AVAQMD 3	Richard Wales Air Quality Engineer Antelope Valley AQMD written comments: June 1, 2004
CCEEB	CCEEB 4	Victor Weisser President California Council for Environmental and Economic Balance written comments: June 1, 2004
CHA	CHA	Roger Richter Senior Vice President California Healthcare Association written: June 1, 2004
CONOCO	CONOCO 2	Ernest Hamann Staff Engineer Conoco Phillips written: May 27, 2004
CWSC	CWSC	Dale Gonzales, P.E. Environmental Affairs Manager California Water Services Company written: May 26, 2004
DWPCLA	DWPCLA 2	Mark J, Sedlacek Director of Environmental Services Department of Water and Power, City of L.A. written: June 1, 2004

INTEL	INTEL	James Charley Central Region Environmental Manager Intel Corporation written comments: June 1, 2004
NAVY	NAVY 2	J.M. Casora Director, Air Quality Program Department of the Navy written comments: June 1, 2004
PGE	PGE 1	Sven Thesen Senior Environmental Consultant Pacific Gas and Electric Company written comments: June 1, 2004
SBC	SBC 2	Linus Farias Environmental Manager SBC written comments: June 1, 2004
SEMPRA	SEMPRA 1	Bernie Orozco Director, State Government Affairs Sempra Energy written comments: June 1, 2004
	SEMPRA 2	Austen D'Lima Sempra Energy written comments: May 27, 2004
SPPC	SPPC 2	Darrell Soyars Senior Air Quality Engineer Sierra Pacific Power Company written comments: June 1, 2004
SVMG	SVMG 1	Margaret V. Bruce Director, Environmental Programs Silicon Valley Manufacturing Group written comments: June 1, 2004

A. Emergency Standby Engine Emission Limits and Operating Requirements

1. Comment: "LADWP (Los Angeles Department of Water and Power) would appreciate clarification in the ATCM for initial start-up testing of newly installed or retrofitted emergency diesel engines. We understand from discussions with the

staff that initial start-up testing will not count against the allowed annual maintenance and testing hours. Please specify that initial start-up testing will not count towards the annual limit for maintenance and testing, and whether start-up testing is restricted within 500 feet of a school. (DWPCLA 2)

Agency Response: The commenter is correct in that initial start-up testing does not count towards the annual limit for maintenance and testing. Subsection (e)(2)(A)(3)(c)(III) and (e)(2)(B)(3)(c)(III) allow a district to determine an appropriate limit on the number of hours of operation for demonstrating compliance with district rules and initial start-up testing. However, the at-school and near-school provisions specified in sections (e)(2)(A)1. and (e)(2)(B)2. apply to both district rule compliance testing and initial start-up testing.

2. **Comment:** CHA and CSHE (California Society for Healthcare Engineering) believe that a practical way to address the issue of requiring stationary diesel emergency standby engines with large fuel tanks to replace their fuel with compliant fuel by January 1, 2006 is to simply require the owners/operators of in-use stationary emergency standby diesel-fueled CI engines to purchase for use one of the clean fuels listed in the ATCM by January 1, 2006. (CHA)

Agency Response: We agree and have modified the ATCM to incorporate the suggested language in subsection (e)(1)(B).

B. Exemptions and Delays in Implementation

1. **Comment:** "SVMG requests that any proposed ATCM regulation provide exemptions or waivers for facilities unable to identify suitable, available, cost effective compliant technology." (SVMG 1)

Agency Response: We do not agree with the commenter. Throughout the ATCM development process, we worked closely with the California Air Pollution Control Officer's Association (CAPCOA) Air Toxics Committee. Although there was some discussion of adding a waiver provision to the ATCM, the CAPCOA Committee felt that adding such a provision was unnecessary at best, and limiting at worst, since they already have the authority to grant variances through existing local district rules and regulations.

Regarding the statement concerning the availability of existing "compliant technologies," the Staff Report contains an extensive discussion of the suitability, availability, and cost-effectiveness of compliant technologies, both in the near term and projected into the future (see Staff Report, Ch. XI). Based on the information contained in the Staff Report and the ability of the districts' to grant temporary variances, we believe the suggested modification is inappropriate and unnecessary.

2. **Comment:** "The new language regarding low-use prime engines used to start 'cogeneration gas turbine engines' should be modified to address low-use prime

engines used to start 'combustion turbine engines.'" (CCEEB 2)

Agency Response: We agree and have modified the relevant language to refer to "combustion gas turbine engines" rather than the former "cogeneration gas turbine engines."

C. Emergency Use

1. Comment:

A. "We are requesting that the definition of "emergency use" be expanded to include emergency generator use during the maintenance, repair, and upgrade of power transmission and distribution equipment. (INTEL)

B. "PG&E requests that the definition of "Emergency Use" be expanded to include emergency generator use during electric power transmission and distribution line maintenance, repair and upgrade. As a component of this, 17CCR 93115(d)(41)(C) would be deleted. (PGE 1)

C. CCEEB suggests a change to the new proposal to address situations where utility power distribution equipment is off-line due to service, repair or upgrade activities. CCEEB suggests that ARB change the modified text to instead include this activity in the loss of power provisions under the definition of "emergency use". (CCEEB 4)

D. We recommend that the definition of "Emergency Use" in Section (d)(25)(G) include the following: "the providing of electric power when utility distribution company power distribution equipment is offline due to services or repair activities." Consistent with this change, we recommend the following: "to provide electric power when utility distribution company power distribution equipment is offline due to services or repair activities" be removed from the definition of "Maintenance and Testing." (SBC 2)

Agency Response: We disagree with all these comments and suggested changes. As discussed previously in this FSOR, the general approach to defining "emergency use" was to limit the unrestricted use of engines to situations that are true emergencies (i.e., reasonably unforeseeable and beyond the reasonable control of the engine owner). We believe that most, if not all, power supply contracts with engine owners provide notice to the owners that the electricity supplier may occasionally take its power distribution equipment offline for routine maintenance and testing. Because of this, the owner has notice of such an event, which means transmission maintenance and testing is reasonably foreseeable and within the control of the engine owners. That is, the engine owner can plan his/her own engine's maintenance and testing schedule to account for these foreseeable outages. Therefore, it is inappropriate to classify

transmission equipment maintenance and testing and similar planned and foreseeable activities as emergency uses.

2. **Comment:** SVMG requests that the ARB include major proactive electrical maintenance activities that require the use of alternate power sources as a "loss of regular power supply" for purposes of calculating the hours of allowable run-time." (SVMG 1)

Agency Response: We disagree. By definition, proactive maintenance activities occur before the occurrence of a true emergency (e.g., an earthquake that knocks out power lines to a facility). In addition, proactive activities are foreseeable and within the reasonable control of engine owners. This is because the engine owners will have notice of such planned activities (e.g., in their power supply contracts) and can plan their own engines' maintenance and testing schedules accordingly. Therefore, we believe it is inappropriate to make the suggested modification.

3. **Comment:** "SVMG requests that the definition of 'loss of regular power supply' clearly include voltage irregularities." (SVMG 1)

Agency Response: We believe the ATCM already accounts for off-specification voltage irregularities as "loss of regular power supply." The definition for "emergency use" refers, in part, to the loss of all or part of "normal electrical power service." Thus, if an engine owner's power supply contract provides for electric power within a certain voltage specification, and power is then briefly supplied at some point outside of that specification, the engine owner would no longer be receiving "normal electrical power service." In that case, the engine owner would be allowed to operate the emergency standby engine as an emergency use, as long as the voltage is outside of the voltage specification. On the other hand, if the contract provides for normal electrical power service that includes voltage irregularities, then the use of an engine under that circumstance would not constitute an emergency use. Similarly, if the supplied electricity has an irregular voltage that nevertheless remains within a contractual specification, then the use of the engine under those circumstances would also not constitute an emergency use.

4. **Comment:** "The definitions of (24) "Emergency Standby Engine" and (25) "Emergency Use" have evolved through multiple changes during the stakeholder process to a definition so specific that it eliminates the legitimate emergency use of our generating stations during transmission system emergencies. (SPPC 3)

Agency Response: We disagree. Because the use of an engine during an emergency is effectively unlimited under the ATCM, it is absolutely critical for public health protection to define "emergency standby engine" and "emergency use" to limit such operations to true emergencies. When read together, these definitions would allow emergency standby engines to be operated as an emergency use during a transmission system failure. Specifically, to address the commenter's concerns, when transmission limitations exist in the grid and normal electrical power service to a facility fails or is lost,

in whole or part, the ATCM permits a Utility Distribution Company (UDC) to operate its emergency standby engines to provide power to that facility. Those hours would be considered "emergency use" hours of operation for the UDC.

It is important to contrast the above scenario with an end-user facility's use of engines during a planned transmission maintenance that results in loss of power to the facility. There are two possibilities, depending on the contractual provisions between the UDC and the end-user facility. On the one hand, if the end-user has notice of a UDC's planned transmission maintenance (i.e., their contract provides for that possibility), then the end-user has notice of the activity, and the UDC's planned transmission maintenance would be a reasonably foreseeable activity that is within the end-user's reasonable control. As such, any use of the end-user's emergency engines under those circumstances to replace its electricity or power needs would be considered maintenance and testing.

The other possibility is that the end-user facility's contract contains no provision that speaks to or otherwise allows for the possibility of the UDC taking its transmission equipment offline. Because its contract in that case does not provide the facility with notice of the possibility of such activities, the end-user's operation of its emergency engines to supply its power needs when the transmission equipment is taken offline would be considered an emergency use (i.e., it is not within the end-user's reasonable control and it is not the result of a contractual obligation). In that situation, unlike the previous scenario, any use of the end-user's emergency engines to replace its power needs would be considered an emergency use.

5. **Comment:** "In the proposed modified text made public on May 14, 2004, the following was added to the definition of Maintenance and Testing, and reads as follows:

17 CCR Section 93115 (d)(41)(B): "Facilitate the training of personnel on emergency activities; or…."

We oppose including this statement as a part of the definition of Maintenance and Testing since it discourages and impedes important training activities of refining in-house fire fighting units. These training activities, which often result in the operation of emergency diesel driven firewater pumps, are a key element in maintaining a competent and efficient emergency response unit.

We recommend that item D under the definition of Emergency Use be modified. Proposed modification to Section 93115(d)(25)(D):

"(D) the pumping of water for fire suppression or protection; **or during facility fire training activities."** [emphasis in the original] (CONNOCO 2)

Agency Response: We disagree. By definition, the training and testing of engines are planned activities and therefore do not constitute emergencies or emergency use of the

engines. We agree with the commenter that fire-training activities are critical to maintaining a competent and efficient emergency response unit. We also believe the fire pump engines should be operated as necessary to ensure the proper training of personnel. However, these important activities have to be balanced against the important need to reduce diesel PM emissions from stationary diesel engines.

As discussed in the Staff Report, we believe we have achieved that balance with a tiered set of emission limits and hours of operation limits, as well as targeted exemptions and provisions (e.g., the provision allowing in-use direct-drive fire pumps to operate in excess of the 20 hour limit to the extent required to comply with NFPA 25). Because the hour limits are tiered, engine owners have the option to reduce their emissions incrementally to the level specified in the ATCM that corresponds to the number of non-emergency hours they wish to have. We believe this approach preserves the health benefits of the ATCM while providing engine owners, including those with fire training engines, with flexibility to choose the emissions level and non-emergency hour limits that best fit their needs. .

D. Fire Pump Engines

1. **Comment:** "The same rationale for NFPA requiring Emergency Fire Pumps be tested a minimum of 26 hours/year also applies to Emergency Water Pumps. LADWP believes the ATCM should allow 26 hours/year for maintenance and testing of emergency water pumps to provide the same level of reliability as is allowed Emergency fire pumps." (DWPCLA 2)

Agency Response: We have already addressed a similar comment in our response to Comment 1, "Fire Pump Engines," in the 45-day comments section (Ch. III) of this FSOR.

E. Cost of Compliance and Cost Effectiveness

1. **Comment:** The staff report provided with the proposed ATCM standard points out that a bare 4% of the diesel emissions in the state come from stationary sources. Even though addressing emissions from all sources will be necessary to achieve air quality standards, and the stated goal of reducing emission s by 85%, it would be helpful and important for policy choices to know the cost effectiveness of addressing stationary sources as compared to mobile sources. SVMG therefore requests a side-by-side comparison of the emission reduction costs/benefits of mobile versus stationary diesel engines to better understand the possible policy opportunities. (SVMG 1)

Agency Response: Because the comment pertains to the Staff Report's cost analysis, it is outside the scope of the first 15-day notice, which was provided to allow the public the opportunity to comment on proposed regulatory modifications made after the

February 2004 hearing. As such, no modification or response is required to address this comment. Nevertheless, we direct the commenter to the Staff Report, which details the staff's rationale for proposing the ATCM and its costs and benefits. Because of the pervasiveness of diesel PM emissions and the risk to public health it represents, it is imperative that we reduce diesel PM from all feasible sources. Thus, the issue is not whether a cost-effectiveness comparison is appropriate between mobile and stationary measures. Rather, the issue with regard to this ATCM is the need to compare the cost-effectiveness of different alternatives for regulating this source, stationary compression ignition engines. To this end, the Staff Report compares the advantages and disadvantages of different regulatory alternatives, including the relative costs of each alternative. That comparison was presented in Chapter VII ("Regulatory Alternatives"), and we direct the commenter to that chapter for additional information.

F. Reporting and Monitoring Requirements

1. **Comment:** "The reporting requirement start date, January 1, 2005, for emergency standby engines in Subsection (e)(4)(I)1. should be changed to July 1, 2005 or later." This change has already been made in Subsection (e)(4)(A)2. (AVAQMD 3)

Agency Response: We disagree. The reporting requirements specified in subsection (e)(4)(A)2 are initial reporting requirements that provide districts and the ARB with a "snapshot" of the current inventory of in-use stationary engines operating in California. This information will be used to improve current emission inventories. This date was moved out to July 1, 2005 to provide districts and ARB more time to create a standardized format for the data and collect and process the data. By contrast, the reporting requirements specified in (e)(4)(I)1. will be used to support the operating limits specified for in-use stationary emergency standby diesel engines. Data that are collected from January 1, 2005 to December 31, 2006, can be used to show compliance with the in-use stationary emergency standby engine operating limit requirements, which, for some engines, become effective as early as January 1, 2006. Based on these reasons, it is not appropriate to modify the language as suggested.

2. **Comment:** Change "hours of operation to comply with the requirements of NFPA 25; and" to "*if applicable*, hours of operation to comply with the requirements of NFPA 25; and". This change will remove an unnecessary requirement if a standby engine is <u>not</u> subject to NFPA 25. (SBC 2)

Agency Response: We agree and have made the suggested modification.

G. Compliance Schedule

1. **Comment:** The date of January 1, 2005 of Subsection (e)(2)(A)3. should be changed to January 1, 2006 to match with the fuel requirements of Subsection (e)(1). (AVAQMD 3)

Agency Response: We disagree. The fuel requirement implementation date does not need to coincide with the dates for emergency standby engine to comply with their emission standards. Owners and operators that must use fuels specified in (e)(1) (i.e., "clean fuels") to meet the January 2005 emission standards would simply be in compliance with the fuel requirements one year early. Owners that can comply with the ATCM without the use of "clean fuels" are not required to use or purchase "clean fuels" until January 1, 2006.

It should be noted that the January 1, 2006, date does coincide with the anticipated date that low-sulfur diesel (one of the "clean fuels") will be required to be used by the on-road motor vehicle fleet – making it more readily available to owners of stationary engines.

2. **Comment:** Replacing a water pump involves preparing designs and specifications, a long lead time for manufacturers of the equipment (since water pump sets are custom made and there are not many vendors), and installation and testing. If replacement is necessary, we need a more realistic timeframe to bring these oldest (and most likely candidates for replacement) engines into compliance; therefore, we suggest at least a 1-year extension to the compliance schedule for the four or more pre-1989 through 1989 age category of engines. (DWPCLA 2)

Agency Response: We agree and have modified the compliance schedule for owners of four or more pre-1989 through 1989 model year engines. As requested, we extended the initial compliance date for owners of four or more pre-1989 through 1989 engines by 1 year to January 1, 2007. It should be noted that the percent of these engines to be in compliance by January 1, 2007, remains unchanged at 50 percent.

H. Remotely Located Engines

1. **Comment:** The Navy would like an exemption from the one-mile requirement for an on-site receptor provided that they meet all other requirements of exemption (c)(18) of the ATCM. (Navy 2)

Agency Response: We disagree. We believe the suggested exemption is unnecessary because "receptor location"(in subsection (d)(54)) is defined, in relevant part, as "any location outside the boundaries of a facility where a person may experience exposure to diesel exhaust due to the operation of a stationary diesel-fueled CI engine." Under this definition, a person who is on-site (e.g., a worker at the facility) cannot be a receptor. Therefore, such an on-site person would have no effect on the applicability of subsection (c)(18).

I. At-School and Near-School Requirements

1. Comment: "The requirements for Subsections (e)(2)(A) 1 and (e)(2)(B) 2 for limits of CI engines located within 500 feet school will be nearly impossible to comply with as new schools open or schools moves, specially Charter Schools." (AVAQMD 3)

Agency Response: We disagree. Businesses that own regulated engines and are unsure as to whether a school is located within 500 feet of the engine will simply have to canvas an area equivalent to a circle approximately 1/10th of a mile. We believe this is a reasonable burden on affected businesses that would occur infrequently, if at all. Otherwise, the owner can retrofit the engine so that the diesel PM emission rate is 0.01 g/bhp-hr, operate the engine for non-emergency purposes outside the hours of 7:30 a.m. and 3:30 p.m., or operate it when school is not in session (e.g., weekends, holidays). In any case, there are several options available to affected businesses, and compliance with the near-school provisions is clearly not impossible.

2. Comment:

A. "SVMG requests that the limitation on run time during 'school hours' be eliminated." SVMG considers there is little benefit from this requirement because of the relative minor impact to air quality from standby generator maintenance versus mobile sources of diesel emissions, and the potential significant constraint placed on businesses by conflicting regulations. (SVMG 1)

B. CWS would like to comment on Sections (e)(2)(A) 1 and (e)(2)(B). "These sections require that all non-emergency operation of emergency engines located within 500 feet of school grounds must be done outside the hours of 7:30 a.m. and 3:30 p.m. on days when school is in session." CWS believes the business hour requirement places unnecessary constraints on companies that operate their engines (during their regular business hours of 8 a.m. to 5 p.m. on weekdays) for maintenance and testing purposes. "CWS requests to be exempt and/or are able to operate for a limited time between the hours of 7:30 a.m. to 3:30 p.m." (CWSC)

Agency Response: We disagree. We previously provided extensive responses to these and similar comments in the 45-day comments section of this FSOR ("O. At-School and Near-School Requirements"). The reader is referred to those responses.

3. Comment: "The definition of Subsection (d)(58) 'School or School Grounds' should be separated into two definitions." (AVAQMD 3)

Agency Response: We disagree. Because the terms "school" and "school grounds" essentially have the same meaning and are used interchangeably, we modified the definition of "school" to include the term "school grounds." Upon further discussion with

the commenter, we determined that our modification to include “school grounds” would address the commenter’s concern.

J. Implementation of ATCM

1. **Comment:** “SVMG request that the proposed ATCM requirements not apply within those Air Districts where permits and performance standards for diesel generators are already in place. Or that any new requirements be implemented only after commensurate implementation has been achieved across the state.” (SVMG 1)

Agency Response: We disagree with this comment. It is based on the false premise that the status quo in California is sufficient to protect public health from diesel PM. As shown in the Staff Report, current levels of diesel PM in California clearly need to be significantly reduced. And the ATCM is one of several measures already adopted or under development that are designed to achieve that important public goal.

Under State law, ARB is charged with identifying toxic air contaminants (TACs) and reducing the public’s exposure levels to such TACs. As shown in the Diesel Risk Reduction Plan, diesel PM represents the most significant TAC currently affecting public health. Because of this, the use of best available control technologies (BACT) is warranted to reduce diesel PM to the maximum extent feasible. Indeed, State law mandates the use of BACT to control diesel PM emissions. Based on the estimated risks associated with current diesel PM levels, we set a goal of reducing emissions from stationary engines by 85 percent before 2020.

The ATCM, once approved by the Office of Administrative Law, will establish consistent statewide requirements for both new and in-use stationary diesel engines. Under H&SC section 39666(d), the ATCM establishes a minimum set of requirements that every air district must implement and enforce. Upon implementation of the ATCM, those districts with existing rules in place must evaluate the stringency of their requirements and make any necessary changes to ensure they are as stringent as the ATCM requirements.

Based on these reasons, applying the commenter’s suggested modification would be inconsistent with the Board’s and the districts’ mandates under State law. And the result would be a missed opportunity to achieve short- and long-term substantial reductions in diesel PM emissions and its associated public health risk. Significant reductions in other pollutants would also be missed. Therefore, it would be inappropriate to make the commenter’s suggested modification.

K. Applicability, Definitions and Miscellaneous Issues

1. **Comment:** Subsection (b) – Applicability – needs to be modified to include the requirements for those CI engines equal to or less than 50 bhp that appear in

Subsections (e)(3) of the ATCM. (AVAQMD 3)

Agency Response: We disagree. The commenter appears to be confusing the intent of the ATCM as it applies to small engines (≤ 50 bhp). In addition to applying the ATCM to all medium and large engines (> 50 bhp), we intended certain portions of the ATCM to also apply to small engines. Specifically, we wanted to require sellers and leasers of small engines to offer only engines that meet the specified engine standards. This is reflected in subsections (b)(1) and (e)(3) which, when read together, apply the emission standards specified in (e)(3) and the other requirements of the ATCM to sellers and leasers of small engines, rather than on the buyers of such engines. By contrast, subsection (b)(2) states that, unless otherwise provided in subsection (c), the ATCM applies to any owner or operator of a medium or large engine. Thus, subsection (b)(1) and (b)(2), when read together, apply the entire ATCM to all sellers, leasers, owners and operators of medium and large engines. This is exactly the result we intended with the ATCM. Therefore, we believe the suggested modification is inappropriate and unnecessary.

2. **Comment:** The commenter suggests that the definition of "Rated Brake Horsepower" be modified by deleting the words, "whichever is the greatest" at the end of the definition. The implications of the words "whichever is the greatest" at the end of this definition are that stationary emergency diesel engines that have been de-rated to less than 50 bhp would be subject to the same standards in the ATCM as those greater than 50 bhp engines that have not been derated. The commenter owns several emergency diesel engines that have been de-rated by the engine dealer/distributor to less than 50 bhp. After de-rating the engines, their nameplates were changed to reflect the lower HP rating. By subjecting these de-rated emergency engines to the ATCM, the commenter will very likely be required to obtain permits for these emergency engines to enable the Air District to track and routinely inspect them. Please note, these emergency engines are operated 50 hours/year for maintenance purposes. (SEMPRA)

Agency Response: We agree and have made the suggested modification.

3. **Comment:** Section (d) Definitions # 42: Change "…maximum brake kilowatt" to "maximum brake horsepower" since this refers to the engine output. (SBC 2)

Agency Response: We disagree. The engine information often found in manufacturers' sales and service literature uses kilowatt as the measure of power. In addition, the "Off-Road Compression-Ignition Engine Standards" regulation (title 13, CCR, section 2423) expresses its exhaust emission standards in grams per kilowatt-hour. Under various subsections of this ATCM, the off-road standards are applied to regulated stationary engines (primarily for non-diesel PM pollutant standards). Therefore, to be consistent, we defined "maximum rated power" in terms of maximum brake kilowatts.

4. **Comment:** Section (d) Definitions # 56: "Recommend modifying this definition to

remove the arbitrary rate of $0.20 per kW-hr since this may change in the future. If retained this and other applicable sections may be considered void." (SBC 2)

Agency Response: We disagree. When we developed the provisions addressing the Rolling Blackout Reduction Program (RBRP), we worked closely with the San Diego Gas and Electric Company and the San Diego County Air Pollution Control District, which are the two entities that implement the unique program in San Diego. As written, the RBRP definition and provisions reflect the requirements of the current program. We intended to anchor the definition to the current contractual rate of $0.20 per kW-hr to ensure that the ATCM does not encourage further expansion of the RBRP. A change to the economic incentive offered owners to enroll in the RBRP could impact the number of engines enrolled in the program and increase the public's exposure to diesel PM.

The concern over the RBRP being voided because of a change in the contractual rate is not dispositive. Because of the ATCM's severability provision, voidance of the RBRP for whatever reason would simply result in the affected engines becoming subject to the remaining portions of the ATCM, whichever apply. This is the result that would have occurred had we not included the RBRP in the ATCM in the first place.

V. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES – SECOND NOTICE OF MODIFIED TEXT

Set forth below is a summary of each objection or recommendation made regarding the specific regulatory actions proposed in the Second Notice of Modified Text (dated July 1, 2004), together with an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. The comments were grouped by topic whenever possible.

Comments Received during the Second 15-day Comment Period

Abbreviation	Reference Number	Commenter
MWDSC	MWDSC 3	Carol Kaufman Senior Environmental Specialist Metropolitan Water District of Southern California written comments: July 14, 2004
EMWD	EMWD 2	Daniel R. McGivney Senior Air Quality Compliance Analyst Environmental & Regulatory Compliance Department Eastern Municipal Water District written comments: July 14, 2004

PGE	PGE 2	Sven Thesen Senior Environmental Consultant Environmental Affairs Pacific Gas and Electric Company written comments: July 15, 2004
UCSD	UCSD	Robert Dodds Environmental Specialist University of California, San Diego written comments: July 9, 2004
SVMG	SVMG 2	Margaret Bruce Director, Environmental Programs Silicon Valley Manufacturing Group written comments: July 16, 2004
SDCAPCD	SDAPCD 4	Richard Smith, Director San Diego County Air Pollution Control District written comments: July 16, 2004
FI	FI 2	Mark A. Burns Air Quality Program Manager Directorate of Public Works Fort Irwin written comments: July 9, 2004

A. Demand Response Programs

1. Comment: The applicability of the Rolling Blackout Reduction Program (RBRP) provisions should be clarified. The applicability section of the rule states that the rule is applicable to persons who sell, lease, purchase, own, or operate a stationary compression ignition engine with a rated brake horsepower greater than 50. However, certain provisions of the regulation concerning the RBRP –sections (e)(2)(F)3. and (e)(2)(J) – apply specifically to the San Diego Gas and Electric Company (SDG&E), which operates the RBRP but does not directly sell, lease, purchase, own, or operate engines participating in that program. The applicability section of the ATCM should be revised to indicate that SDG&E is also subject to provisions of the rule applicable to the RBRP. (SDAPCD 4)

Agency Response: We agree that the applicability section does not explicitly refer to the SDG&E. The ATCM contains requirements that are applicable only to the SDG&E – specifically, the reporting requirements for the San Diego Gas and Electric Company regarding the Rolling Blackout Reduction Program. The commenter appears to be concerned with the enforceability of the RBRP requirements against SDG&E. Despite

the lack of an explicit reference to the SDG&E in the ATCM, we believe the suggested modification is unnecessary for several reasons.

First, participation in the RBRP requires the full cooperation of both engine owners and the SDG&E. Because of the environmental dispatch protocol provisions and other requirements, the RBRP cannot function properly without the effective participation of both engine owners and the SDG&E. If we determine that SDG&E is not meeting the requirements applicable to it, the simple remedy would be to return to the Board and conduct a rulemaking to remove the RBRP from the ATCM. Because both engine owners and the SDG&E benefit from the continued operation of the RBRP, it is highly likely that the participating engine owners, when faced with possible removal from the program, would prevail upon SDG&E to meet its requirements.

Second, and more importantly, the San Diego Air Pollution Control District retains the authority under H&SC 39666(d) to adopt and implement equivalent or more stringent measures. Therefore, the district can, if it so desires, adopt a similar control measure that explicitly refers to and applies the ATCM's RBRP requirements to the SDG&E, thereby rendering this concern moot.

Based on these reasons, we believe the suggested modification is not required.

2. **Comment:** The term "load reduction capacity" should be clarified. This term is identified in Section (e)(2)(F)3.a., which limits total electrical power output from diesel-fueled RBRP engines dispatched in the RBRP. For reporting purposes, Section (e)(2)(J)1.a.III. states that the "load reduction capacity" for an engine in the RBRP is the "rated brake horsepower expressed in megawatts." However, the maximum electrical power output from an electrical generator powered by an engine is considerably less than the rated power of the engine. (SDAPCD 4)

Agency Response: We disagree. We recognize that the electrical power output from an electrical generator powered by an engine could be less than the power of the engine for a variety of reasons, including mechanical losses and partial loads. However, for purposes of the ATCM, "load reduction capacity," as defined, provides a conservative, easily calculated criterion that is used to limit the total number of diesel engines operating in accordance with the RBRP program. We developed both the definition of "load reduction capacity" and the 80-megawatt limit on total load capacity with input from SDG&E. There appears to be no confusion from the SDG&E on these elements of the RBRP provisions; therefore, we believe the suggested clarification is unnecessary.

3. **Comment:** Thank you for the modifications to the ATCM appearing in the 2nd 15-day Public Notice relative to the effective date for when engines participating in the Demand Response Programs (DRPs), interruptible service contracts (ISCs), will be required to meet the 0.15 g/bhp-hr PM emission standard. The January 1, 2006 effective date will provide Metropolitan (the commenter) with the needed time to meet our administrative requirements to bring our applicable engines into

compliance. (MWDSC 3)

Agency Response: Because of the 3-month delay in the adoption of the ATCM – from its first hearing date in November 2003 to its final adoption date in February 2004 – and the concerns raised by the commenter, we extended the compliance date for in-use DRP engines enrolled in an ISC prior to January 1, 2005. The original compliance date, January 1, 2005, was extended one year to January 1, 2006.

B. Emergency Standby Engine Emission Limits and Operating Requirements

1. **Comment:** There is no clear indication on how the 20 hours is supposed to be calculated. At what point would an owner or operator start to determine if that internal combustion engine (ICE) is operated 20 or more hours per year. If the rule were finalized at the end of this year, would the owner or operator use the year 2004 maintenance and testing hours in determining if their ICEs meet the requirements? (FI 2)

Agency Response: As described in Section (e)(4)(I), Reporting Requirements for Emergency Standby Engines, "Starting January 1, 2005, each owner or operator of an emergency standby diesel-fueled CI engine shall keep a monthly log of usage that shall list and document the nature of use" for a variety of enumerated uses. Included in the required usage information are the number of hours of maintenance and testing operation. Because the recording requirements do not begin until January 1, 2005, the owner would not be required to use the 2004 maintenance and testing hours for determining compliance with the ATCM. However, a prudent engine owner would probably use 2004 maintenance and testing records, along with other relevant records, to reasonably project in 2005 and thereafter the number of maintenance and testing hours that will be needed. Using that information, the prudent owner can determine if additional controls will be required so that the engine can meet both the applicable hour limits and emission levels.

C. Emission Limits and Operating Requirements

1. **Comment:** Are internal combustion engines stocked and requisitioned through the military supply system exempt from the operating limits and emission standards? (FI 2)

Agency Response: There is no broad exemption for engines stocked and requisitioned through the military. However, the requirements of the ATCM apply only to stationary compression ignition engines, and there is an exemption from operating limits and emission standards for military stationary diesel engines that are used for the sole purpose of training military personnel. The commenter is referred to subsection (c)(8) for more details.

D. Maintenance and Testing

1. Comment:

A. We would like to express our concern regarding the most recently proposed wording in the 2nd 15 day Public Notice that changes the definition of "maintenance and testing" to now include maintenance events performed by the utility distribution company. The utility company can give us notice (e.g. 1-5 days) of a planned maintenance shutdown for their plant/equipment, which would then require the customer to utilize emergency standby generators at the affected facility. These maintenance events are extremely rare (e.g. potentially occurring every 3-5 years) and cannot be predicted. However, in such an event, this amount of time coupled with our routine monthly maintenance and testing operations of about 1 hour per month, would put our maintenance and testing operations over the 20-hour threshold. Additionally, in reviewing tariff schedule with the utility companies, it does not appear these planned outages are even mentioned in the schedule. (MWDSC 3, EMWD 2))

B. The proposed change alters the definition of "maintenance and testing" and in our interpretation of this change, maintenance and testing would include the operation of emergency standby engines while power is interrupted when utility distribution companies take power distribution equipment offline for service or any other non-emergency use. This is an unreasonable and irrational definition of "maintenance and testing" because it would require the utility to inform any generator users that the interruption was NOT due to an "emergency", and the facilities affected by the outage would have no control over the utility or distribution company's decisions to interrupt power. Furthermore, the utility or distribution company may be discouraged from doing proactive maintenance if their customers are caught in a regulatory impasse and may opt instead to allow infrastructure to deteriorate so that upgrades are only made when there are catastrophic failures. (SVMG 2)

Agency Response: We disagree. We believe these comments result from some confusion over the modifications, and some clarification is needed here. The commenters appear to be concerned that the operation of their emergency standby engines, in response to a utility distribution company's planned maintenance activities, would be considered a "maintenance and testing" operation. If so, they are concerned that those hours of operation would count against the 20-hour annual limit they plan on meeting for compliance with the ATCM's requirements. However, in the exact scenario described by the commenters, the operation of the commenters' emergency standby engines would be considered "emergency use," which is not subject to an hour limit, rather than a restricted "maintenance and testing" operation.

If an energy customer experiences the loss of all or part of normal electrical power service resulting from the utility distribution company's planned maintenance activities, and the loss of power experienced by the energy customer is not the result of a contractual obligation (i.e., such planned activities are not part of the contractual

provisions), the energy customer may utilize stationary diesel-fueled emergency standby engines to provide power to its facility. That loss of power is considered "beyond the reasonable control" of the energy customer and the usage of the emergency standby engine in this scenario would be categorized as "emergency use," not "maintenance and testing." This is the scenario described by the commenters.

However, if the operation of the energy customer's emergency standby engine was in response to a contractual obligation that the energy customer has with the utility distribution company, then it does not meet the definition of "emergency use." In that case, which is not the scenario described by the commenters, the operation of the energy customer's emergency standby engine would be considered "maintenance and testing" operation and would count against the 20 hour-per-year limit.

2. **Comment:** The proposed change to section 93155(d)(41)(C) would define "maintenance and testing" to include the operating of an emergency standby CI engine to "provide electric power for the facility when the utility distribution company takes its power distribution equipment offline to service that equipment for any reason that does not qualify as an emergency use."

We understand that this language was intended to address three emergency standby engines owned and operated by PG and E in Downieville, Sierra City and Washington. All three are 250 kW or larger generators. All three are located in remote, rural areas and provide power when transmission lines go down. Because of their location, these transmission lines require more maintenance then others to minimize unplanned outages. For this reason, we request that such maintenance be included in the definition of emergency use for these engines. (PGE 2)

Agency Response: We disagree. As we discussed earlier in this FSOR, planned activities are, by definition, not true emergencies in that they are reasonably foreseeable and within the reasonable control of the engine owners. To minimize diesel PM emissions that are uncontrolled during an "emergency use," it was critical to define "emergency use" narrowly and restrict it to true, enumerated emergencies. Therefore, the planned activities cited by the commenter, while important, do not constitute emergencies and would be counted as "maintenance and testing" activities and treated accordingly.

3. **Comment:** The commenter requests that the proposed change to section 93155(d)(41)(C) that would define "maintenance and testing" to include the operating of an emergency standby CI engine to "provide electric power for the facility when the utility distribution company takes its power distribution equipment offline to service that equipment for any reason that does not qualify as an emergency use" be modified to address only engines greater than 250 kW. This would avoid the risk of dragging into the regulatory net dozens of smaller PG&E emergency standby engines that have no significant environmental impact. These smaller engines support telecommunications facilities, service centers and the like

during outages and only once every 5 to 10 years are called into service due to line maintenance. (PGE 2)

Agency Response: We disagree. We believe it would be inappropriate to modify the definition of "maintenance and testing" as the commenter suggests.

The basic approach we took when developing the emission standards and hour of operation limits for emergency standby diesel engines is simple: the more hours you operate a diesel engine in a planned, predictable, "non-emergency" mode, the "cleaner" the engine's exhaust needs to be. The ATCM defines hour of operation limits and emission standards based on the scheduled operation of the engine – specifically the hours of operation for maintenance and testing operation. We believe it is appropriate and necessary to require most stationary emergency standby engines greater than 50 hp (37 kW) to meet these limits and standards – with only a few enumerated exceptions, as specified in the ATCM.

Specific to the scenario described by the commenter, if a utility distribution company owns or operates several emergency standby engines located at telecommunications facilities and service centers, and these engines are called into service because the same utility distribution company is electing to perform power distribution equipment maintenance, the hours of service of those engines are considered "maintenance and testing" hours.

Modifying the definition for "maintenance and testing" as suggested to address only 250 kW engines or larger would substantially reduce the ATCM's projected diesel PM reductions. As discussed earlier in this ATCM, the commenter's suggestion would make achieving our goal of achieving an 85 percent reduction in diesel PM problematic in the least. Lacking a compelling reason to adopt the commenter's suggestion, we believe it would be inappropriate for us to make the suggested modification.

4. **Comment:** The commenter is proposing that the definition for "Maintenance and Testing in Title 17, CCR Section 93115(d) be modified by adding the following, "unless by regulation or certification, an uninterruptible power supply is required." The commenter believes any loss of power at health care facilities, hospitals, medical care facilities, nursing homes, or other similar facilities must be viewed as an emergency under any cause or situation. (UCSD)

Agency Response: We disagree. It appears the commenter is essentially asking for an exemption from the operating requirements and emission standards for emergency standby engines operated at health care facilities where an uninterruptible power supply is required to protect human life. For the following reasons, we believe such a modification is unnecessary.

If a health care facility loses power, it may operate its emergency standby engines as an emergency use, provided the use of the engine under those circumstances meets the specified criteria for "emergency use." Essentially, any loss of power that was beyond

the reasonable control of the health care facility (e.g., power blackout, earthquake) and was not the result of a contractual obligation (e.g., enrollment in a demand response program) would qualify as an emergency.

However, health care facilities must also perform non-emergency maintenance and testing on their diesel engines. The goal of the ATCM is to keep the maintenance and testing hours to a minimum, while still ensuring the operational readiness of the emergency standby engine. The ATCM would allow in-use emergency standby engines to operate up to 20 hours a year for maintenance and testing operations without requiring the engines to meet a specific diesel PM emission standard. Currently, health care facilities can meet the maintenance and testing requirements of Health and Safety Code Section 41514.1, and the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) Standard EC.2.10.4.1. with less than 20 hours per year of engine operation. If these requirements are amended in the future, and the hours required for maintenance and testing are increased up to 30 hours, these engines would be required to meet an emission standard of 0.40 g/bhp-hr.

E. Procedural Issues

1. **Comment:** We are deeply troubled by the short comment period time frame given the substantive nature of the changes from the first and second comment sets. 15 days is not an adequate amount of time for organizations, especially those with large and complex facilities, to evaluate the potential impacts of the proposed changes and respond with constructive, substantiated comments. In the preface letter to the proposed regulations the staff letter acknowledges the changes as "...additional substantive modifications…." The Board directed a "supplemental comment periods [sic] of at least 15 days"' so there is both reason and opportunity to have extended the comment periods. (SVMG 2)

Agency Response: We disagree. The supplemental comment periods were provided pursuant to and in compliance with Government Code section 11346.8, which mandates at least 15 days for such supplemental comment periods to provide the public with a period of time that the California Legislature has determined to be sufficient. Therefore, we met all applicable statutes and regulations regarding supplemental comment periods that apply to this rulemaking.

It should be noted that we developed the ATCM in an open and public process over the past 3 years with extensive consultations with industry, government agency representatives, environmental organizations, and members of the public. Given the familiarity most interested stakeholders have with the ATCM requirements and our compliance with applicable Government Code requirements, we believe 15 days provided sufficient time for review and comments on each set of proposed changes to the ATCM.

VI. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES – THIRD NOTICE OF AVAILABILITY OF ADDITIONAL DOCUMENTS

The third notice of availability of additional documents contained no additional proposed modifications to the regulatory text. Instead, the third notice announced a supplemental comment period for the public to review and comment on reference materials for Chapter IX ("Economic Impacts (Revised)") and Appendix I ("Cost Analysis – Basis for Calculations (Revised)"). These references were inadvertently omitted from the Staff Report when it was published on September 26, 2003.

Two written comments were received during the third 15-day comment period, but those comments did not specifically address the additional supporting documents in the 3rd 15-day notice. One comment identified an inadvertent word-processing omission in subsection 93115(e)(4)(G)2. of the draft regulation, which will be corrected when the final regulation order is forwarded to the Office of Administrative Law. The other comment addressed the number of hours for maintenance and testing, which was outside the scope of the notice. Therefore, staff made no additional modifications in response to those comments other than the correction as noted above.

The error cited above in subsection 93115(e)(4)(G)2. ("Monitoring Equipment") resulted from a word-processing error that occurred between the first 15-day and second 15-day proposed versions of the regulation. The original proposal, in relevant part, stated "All DPFs…must be installed with a backpressure monitor to notify the owner…when the high backpressure limit of the engine is approached." [emphasis added] In response to comments received, we modified the language and published it (in strikeout/underline format to denote deletions and additions) for comments in the first 15-day notice as follows: "All DPFs…must, upon engine installation or by no later than January 1, 2005, be installed with a backpressure monitor ~~to notify~~ that notifies the owner…when the high backpressure limit of the engine is approached." [emphasis in the original] Due to a word-processing error, much of this language was inadvertently excised in the second 15-day notice, resulting in: "All DPFs…must, upon engine installation or by no later than January 1, 2005, be installed with a backpressure approached." Note that the excised language was not announced as a proposed deletion in the second 15-day notice.

Clearly, as the commenter notes, the version in the second 15-day notice is nonsensical, as it says nothing about what is to be installed by the specified date and what that equipment is supposed to do. Moreover, the omitted language was already published for public comment in both the original proposal and the first 15-day notice, and we received no adverse comments on the complete language as described above before the inadvertent omission. Based on these reasons, and because it was an unintended, word-processing error, we agree with the commenter and believe it would be appropriate to use the omitted language in the ATCM (i.e., the version that appeared in the first 15-day notice).